



Minutes

**Chapter Technology Transfer Committee
Virtual - GotoMeetings**

Wednesday, June 9, 2021

**Full Committee – 11:00am-1:00pm – GotoMeetings
Subcommittee Meetings – 1:00pm-3:00pm – GotoMeetings**

Wednesday, June 16, 2021

**Executive Subcommittee – 11:00am-12:00pm – GotoMeetings
Full Committee – 12:00pm-3:00pm – GotoMeetings
New Member Orientation – 3:00pm-4:00pm – GotoMeetings**

Attendance

Members Present	Members Absent	Guests	Staff
Thursten Simonsen		Charlie Hon	Rhiannon Masterson
Mohammad Al Tassi		Larry Smith	Anastasia Meadows
Daniel Robert		Kim Cowman	Joyce Abrams
Charles Bertuch		Tim McGinn	
Daniel Redmond		Keith Reihl	
Matthew Archey			
Christopher Adams			
Arunabha Sau			
Elizabeth Zakelj			
Grant Page			
Peter Sudbeck			
Russell Pratt			
Kevin Blankemeier			
Janice Peterson			
John Constantinide			
Renjie Jerry Huang			
Mahroo Eftekhari			
Ahmad Nour			
Heric Holmes			
Andrew Reilman			
Ashish Rakheja			
Mick Schwedler			
*Frank Rivera			
*Kenneth Shifflett			
*Abigail Brophy			
*Tyler Bradshaw			
*Thiago Corrêa Fonseca Portes			

*Incoming 21-22 CTTC Members

Principal Approved Motions

No. – Pg.	Motion
1 – 3	The minutes from the CTTC virtual meetings held January 13 & 15, 2021 be approved.

Action Items

No. – Pg.	Responsibility	Summary of Action
1 – 3	Staff	See if Survey Monkey for DL survey can be put into different languages.
2 – 3	Staff	Get Tech Hour viewing data from Marketing. Try to get webcast versus Tech Hour numbers, and a breakdown by each Tech Hour video. Plan to review with the Operations Subcommittee.
3 -3	DL Ad Hoc	Review PPT subtitle information and determine when and how to distribute to DLs.

4 – 4	Staff	Update Regional Statistics document once PAOE is finalized in mid-July.
5 – 4	Staff	Incorporate updates to Liaison Talking Points document and distribute to committee
6 – 4	Staff	Email RVCs to confirm how many Region Tech Award nominations have been submitted.
7 – 4	Staff	Staff to email DLs to ask for a list of virtual visits they completed for SY 20-21.
8 – 4	Member Services Subcommittee	Create a slide with disclaimer information that can be used for all chapter presentations. Provide update at mid-year call and report to full committee at next conference.
9 – 10	Staff	Assure that DL training is scheduled and conducted every May for new DLs as a standard practice using the standard CTTC presentation
10 – 10	Staff	Send a standard invitation letter to the current/outgoing President by Dec 15, and specifying a response deadline by Jan 15 of every year.
11 – 11	Staff	Send semi-annual promotional-announcement-emails to all ASHRAE members about the DL nomination deadline and useful links.
12 – 11	Member Services Subcommittee	Initiate a new “DL Diversity & Outreach Ad Hoc” to provide recommendations to CTTC at the 2022 Winter Meeting.
13 – 12	Promotion Award Nomination Ad Hoc	Consider diversity in Technology Award recipient discussion to further focus on Active Outreach
14 – 14	Tech Hour Ad Hoc	Conduct a call to select Tech Hour topics for the 21-22 SY.
15 – 14	Staff	Provide Operations Subcommittee members with previous Chapter Notes articles to use as starting point for new articles.

Minutes from June 9, 2021

1. **Call to Order**
2. **Roll Call/Introduction of Guests**
3. **ASHRAE Code of Ethics Commitment**
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 interest. (See full Code of Ethics: <https://www.ashrae.org/about/governance/code-of-ethics>)
4. **Review of Agenda**
5. **Approval of Minutes**
 - a. It was moved and seconded that:
 - i. **Motion (1)** The minutes from the CTTC virtual meetings held January 13 & 15, 2021 be approved.
 - ii. **Motion (1) passed.** Vote: unanimous approval.
6. **Review of Action Items (Attachment A)**
 - a. Review of action items from 2021 Winter Conference meetings and mid-year subcommittee calls.
 - b. **Action Item (1):** Staff to check and see if Survey Monkey for DL survey can be put into different languages.
 - c. **Action Item (2):** Staff to get Tech Hour viewing data from Marketing. Try to get webcast versus Tech Hour numbers, and a breakdown by each Tech Hour video. Plan to review with the Operations Subcommittee.
7. **Remarks**
 - a. BOD Ex-Officio – Ashish Rakheja
 - i. Review of AHSRAE Leadership Presentation
 - b. Coordinating Officer – Mick Schwedler

- i. Schwedler pointed out that PowerPoint has feature for subtitles in other languages, which may be helpful for DL presentations. **Action Item (3):** Schwedler will send Simonsen details, and CTTC can disburse as necessary.

8. Special Reports

- a. Certification – Kim Cowman, Certification Committee Vice Chair
- b. eLearning – a representative from eLearning was unavailable to present, but their informational document will be shared with the committee.
- c. TAC – Larry Smith, TAC Vice Chair
- d. REF-CPCC – Charlie Hon, REF-CPCC Member
- e. BEQ – John Constantinide, BEQ Chair
- f. TEC – Keith Reihl, TEC Vice Chair

9. Reports from Ad Hoc

- a. Digital DL Evaluations – Redmond (Chair), Page, Constantinide (**Attachment B**)
 - i. The Member Services Subcommittee will discuss whether or not this ad hoc needs to continue.
- b. Online Chapter Programs – Constantinide (Chair), Holmes, Page, Bertuch
 - i. Collaborated with the Communications Committee on amending the ASHRAE Virtual Meeting Guidance to consolidate ASHRAE document guidance and have the existing meeting guidance address CTTC concerns.
 - ii. Reviewed the guidance and provided feedback
 - iii. Our feedback is being considered by the Communications Committee amidst other feedback from CRCs and Chapters prior to review and approval by the Committee and Members Council.
 - iv. Keep point of contact for the Communications Committee, but will likely disband this ad hoc since their work is done.
- c. Promoting Award Nominations – Bertuch (Chair), Eftekhari, Adams, Zakelj (**Attachment C**)
 - i. The Member Services Subcommittee will review this ad hoc's report

10. Review of Regional Statistics

- a. **Action Item (4):** Staff to update document once PAOE is finalized

Minutes from June 16, 2021

11. **Call to Order**
12. **Roll Call/Introduction of Guests**
13. **Liaison Talking Points**
 - a. Review of recommended updates
 - b. **Action Item (5):** Staff to incorporate updates and distribute to committee
 - c. The Operations Subcommittee is tasked with reviewing this document annually
 - d. If additional liaisons are needed (ie for groups that we have an MOU with), that will be discussed as needed. Keep in mind there are some RVCs who do not have a liaison assignment since there are only 10 TC sections.
14. **Subcommittee Reports**
 - a. Member Services – Al Tassi (**Attachment D**)
 - b. Operations – Robert (**Attachment E**)
15. **Status of 2020-21 MBOs (**Attachment F**)**
 - a. Chair Simonsen reviewed the 2020-21 MBOs.
 - b. **Action Item (6):** Staff to email RVCs to confirm how many Region Tech Award nominations have been submitted.
 - c. **Action Item (7):** Staff to email DLs to ask for a list of virtual visits they completed for SY 20-21.
16. **New Business**
 - a. Request from BOD: CTTC consider drafting a disclaimer appropriate for all (not just DL) presentations given to Chapters, that the opinions expressed are that of the presenter and not ASHRAE or the Chapter. The disclaimer could be added to the presentation itself and perhaps stated out loud by the Chapter member who is introducing the presenter.
 - i. Note: this is not a mandate to implement such a disclaimer, but rather a request for CTTC to consider if a disclaimer is appropriate and necessary.
 - ii. **Action Item (8):** Assign to Member Services Subcommittee
 1. Consider creating a slide with necessary information
 2. CEC may have a disclaimer they can share that they use for conferences
 3. Present update at mid-year call; report to full committee at next conference
17. **Change of Chair – Simonsen/Al Tassi**
 - a. Recognition of outgoing and incoming members
 - b. 2021-22 MBOs – Al Tassi (**Attachment G**)
 - c. Appointment of 2021-22 Subcommittee and Mentors – Al Tassi (**Attachment H**)
18. **Next Meeting – January 2022 in Las Vegas, NV**
19. **Adjournment**

Action Items**2021 Winter Conference**

# - Page	Status	Responsibility	Summary of Action
1 – 3	Complete	Staff	Joyce Abrams will report back once she receives an update and more specific information regarding the online DL content form
2 – 4	<i>Report on during ad hoc updates</i>	Online Chapter Programs Ad Hoc	Reach out to Communications Committee, with support of CTTC leadership, to see if we can collaborate with them on documentation. Aim to have an update at mid-spring Operations Subcommittee meeting.
3 – 5	Complete	Constantinide	Update Liaison Talking Point document for the 2021 Annual Conference meeting
4 – 5	Complete	Staff	Schedule subcommittee calls for early to mid-April
5 – 5	Complete	Staff	Communicate to chapters that DL virtual visits are already available, that we want to track them, and instructions on how to utilize ASHRAE's GTM service
6 – 6	In process	Staff	Send note to Vickie Grant that CTTC is actively working to create something similar to Motion (2) and we will have an ad hoc working on this while the Communications Committee is reviewing feasibility. (That the following Members Council referred motion be referred to the Communications Committee to review for feasibility and fiscal impact: That CTTC implement a "Chapters DL Event Tracker" application tool on ASHRAE 365 mobile application, beginning July 1, 2021.)
7 – 6	<i>Report on during ad hoc updates</i>	Digital DL Evaluations Ad Hoc	Provide an update during the spring Member Services subcommittee meeting and a report during the CTTC 2021 Annual Conference meeting.
8 – 6	<i>Report on during ad hoc updates</i>	Promoting Award Nominations Ad Hoc	Provide an update during the spring Member Services subcommittee meeting and a report during the CTTC 2021 Annual Conference meeting. Research possibility of offering example Technology Award short forms.

Mid-Year Subcommittee Calls

# - Page	Status	Responsibility	Action
1 – 1	Complete	Rhiannon	Confirm Cx Tech Hour views from Marketing
2 – 1	Complete	Operations Subcommittee	Brainstorm Tech Hour topic ideas to review at Annual Conference
3 – 2	Complete	Rhiannon	Send updated CTTC MOP to subcommittee
3 – 2	Complete	Rhiannon	Send 21-22 CTTC PAOE to John, Liz, Aru, and cc Daniel

Digital DL Evaluations Ad Hoc
Redmond (Chair), Page, Constantinide

Update from ASHRAE Marketing:

20. This could be technically possible through ASHRAE 365 by using Survey Monkey links accessible via ASHRAE 365. To do this, we could make a Survey Monkey form from the existing evaluation. We could put a link to the existing certificate (or we could make it into a PDF form) at the end of the Survey Monkey so that after filling out the evaluation, the member would get his/her certificate. Marketing can make a mockup of this option if that would give a better visual on how it works and how it would function.
21. This Survey Monkey method wouldn't have to be used within ASHRAE 365 – it could also be standalone.
22. We have checked with Results Direct to see if they'll be adding anything new/different that could be applied to the DL evals in ASHRAE 365 – they currently don't have anything on their radar.
23. GoToMeeting/Webinar also allows for certificates to be sent to attendees, however, my understanding is that Society will soon be moving to WebEx instead.
24. There's also the system that ALI uses whereby a user fills in their own information to custom-create a PDF certificate. The link to get to the system is revealed after filling out a survey

Award Nominations Ad Hoc

Charles Bertuch (Chair), Chris Adams, Liz Zakelj

Minutes

1. Ideas to increase number of applications for ASHRAE Technical Awards and CTTC awards were discussed.
 - a. The general consensus is that there are many deserving projects/applicants that are not nominated.
 - b. More nominations/applications could be spurred by better promotion and clarification of the process.
 - c. While not every region may have an exceptional candidate every year, regions without a Dan Mills and Donald Siller nomination should be the exception, not the rule.
2. Donald Siller Refrigeration Award – very few nominations. Encourage through:
 - a. Short annual piece in ASHRAE Journal featuring recent winner(s) and promoting applications
 - b. Reach out to DLs with refrigeration themed presentations to note award and encouraging nominations
 - c. Have regional Refrigeration Chair actively solicit applicants through direct contacts to Chapter refrigeration and CTTC chairs
3. Dan Mills Award – 3 or 4 nominations annually, most likely other strong candidates
 - a. Short annual piece in ASHRAE Journal featuring recent winner and promoting applications
 - b. Have each Region DRC reach out to their Chapter presidents to encourage nominations.
 - c. Basing applications on ASHRAE year performance complicates Move application deadline to end of July, with the intent that outgoing Presidents will be more likely to nominate CTTC chairs closer to the end of their terms.
 - d. RVCs encouraged to take active role in encouraging chapter nominations. The RVCs are in a good position to know which chairs are performing at the highest levels. For years when RVC changes, outgoing RVC to work with incoming RVC to provide feedback on potential candidates.
4. Technical Awards
 - a. Work with ASHRAE PR on strategy to better promote/publicize
 - b. Increase recognition of winners - make sure chapters and regions make a big deal out of winning. Making sure companies recognize their employees who have won or been nominated.
 - c. Get architects/owner/rest of the team involved in the recognition at chapter and regional level. Event where the recipients can bring their team/client as a prestigious and networking opportunity.
 - d. Provide sample applications to serve as guideline for potential applicants.
 - e. Consolidate application into a single form, with direction not to proceed to the detailed “long form” info until selected as Regional winner.
 - f. Work with Cx certification bodies to promote RCx awards.
 - g. Offer opportunity to submit applications at the completion of design or construction, with historical energy data follow up prior to actual judging.
5. We welcome the chance to discuss with CTTC leadership or the committee at the next meeting and look forward to refining ideas to a few workable initiatives to implement.

Member Services Subcommittee Report

Attendees:

- Mohammad Al Tassi, Chair
- Charles Bertuch
- Daniel Redmond
- Peter Sudbeck
- Russell Pratt
- Kevin Blankemeier
- Janice Peterson
- Mahroo Eftekhari
- Grant Page
- Andrew Reilman
- Tyler Bradshaw, incoming RVC
- Kenneth Shifflett, incoming RVC

Anastasia Meadows (Staff)

1. Mid-Year Subcommittee Meeting (April 23, 2021 at 12pm Eastern/ Virtual)

The Member Services Subcommittee had its second mid-year meeting which has been attended by most of the Subcommittee members (2 absentees), whereby the following topics have been attended to:

- a. DL Program
 - i. Reviewed the travel policy for SY 21-22
 - ii. New DL submissions, new DL orientation in May
- b. BOD Adoption of “primary/secondary” terminology (rather than “Master/Slave” which is banned terminology at ASHRAE) for ASHRAE Standard 135 and others as applicable.
- c. Technology Awards
 - i. Society-level deadline is September 1
 - ii. Remind Regional nominees to utilize the long-form when submitting to Society
- d. CTTC Awards:
 - i. Both the Dan Mills Chapter Programs Award and the Donald A. Siller Refrigeration Award have a submission deadline of September 30
- e. Ad Hocs:
 - i. Digital DL Evaluations Ad Hoc Brief (Daniel Redmond -chair, Grant Page & John Constantinide)
 - ii. Promotion Award Nominations Ad Hoc (Charles Bertuch -chair, Chris Adams & Liz Zakelj)

2. Annual/ Summer Subcommittee Meeting (Jun 9, 2021 at 1:00pm -3:00pm Eastern/ Virtual)

In its annual/ summer meeting, the Member Services Subcommittee had a long meeting and attended to a long and diverse list of agenda items as follows in the next sections of this report.

3. Status of Assigned Action Items

# - Page	Status	Responsibility	Action
1 – 1	Complete (Total 70 DLs: 6 new, 6 Out (2 unable to renew)	Staff	Confirm final number of DLs for 21-22
2 – 1	RVCs to inform all their Regions and Chapters accordingly	RVCs	Remind Regional Tech Award nominees to utilize the long form when submitting to Society
3 – 1	Complete Checked with Joyce for various available options (ASHRAE365, Survey monkey, or others) Staff are following up forward	Digital DL Evaluations Ad Hoc	Check with Joyce Abrams for update

4. Ad Hoc Updates

- a. Digital DL Evaluations (Redmond, Page, Constantinide):
 - i. Completed most of its scope and waiting for ASHRAE action plan
 - ii. Proposal to expand the Ad Hoc scope to cover wider scope of full Virtualization/ Automation of the entire DL process. The new Ad Hoc can be called “DL Automation Ad Hoc”, which would work closely with Staff until this project is completed.
- b. Promotion Award Nominations (Bertuch, Adams, Zakelj):
 - i. Completed a valuable report of multiple recommendations (as presented in the last meeting). Yet, the Ad Hoc requires additional time to make final review with Staff and come forward with a final list of recommendations for CTTC adoption in the Winter Meeting 2022.

5. Distinguished Lecturer Program

- a. 2021-22 DL Formula/Allocations:
 - i. Total number of annual allocations: 195 visits
 - ii. Regional Allocations are based on number of chapters and number of members
 - iii. No change on the existing process as no complaints were received on it
- b. DL Orientation Conference Calls have been completed by Andrew Reilman.
 - i. **Action Item (9)**: Staff to assure that DL training is scheduled and conducted every year for new DLs “every May” as a standard practice using the standard CTTC presentation
- c. DL Invitations for outgoing ASHRAE presidents:
 - i. Immediate outgoing Presidents are invited to be DLs without a nomination
 - ii. All other previous presidents should apply as per the standard DL nomination procedures
 - iii. **Action Item (10)**: Staff to send a standard invitation letter to the current/outgoing Presidents by Dec 15, and specifying a response deadline by Jan 15 of every year.
- d. DL Diversity:
 - i. *An ASHRAE member pointed out how few DLs are female (69 DLs total, 8 female = 11.6% female).*
 - ii. *Proactive Diversity Task Force recommends that the following be reviewed in regards to the DL program:*
 1. *Are there diverse candidates applying for DL positions?*
 2. *What are the criteria to be successfully appointed as a DL?*

3. *Are those criteria biased in any way to prevent diversity (superficially, it appears to be possible)*
 4. *If there is a reasonably diverse pool of applicants, and if so, what is preventing them from being successfully appointed?*
 5. *Are the DL evaluators being unconsciously biased in appointing like-minded or congruent individuals?*
 6. *Is our membership makeup such that there are insufficient diverse candidates statistically eligible to succeed in DL application (for example, are there just not enough engineering professors that are female and non-Caucasian to form a reasonable candidate pool?)*
 7. *Are the DL appointment criteria too restrictive to allow for diversity?*
- iii. The Subcommittee discussed the above raised items “i” and “ii” and brainstormed further relevant ideas as follows:
1. Percentage wise, the available women DLs % (11.6%) is higher than women Membership % (7.5%), so no diversity issue. Yet it is recommended to increase the women % of DLs as a promotional-measure for women membership in ASHRAE (which is the root cause for this women-diversity issue)
 2. DL Diversity: It is recommended to further promote DL diversity in all possible areas (gender, ethnic, religion, geography...) as an essential factor of DL selection criteria, but without putting any specific quotas which could lead to compromising the DL quality
 3. YEA: should be encouraged to join the DL list
 4. Topics: additional DL topics to be targeted, like: Finance, Management, Leadership, Insurance, Professional Development, Public Speaking, Emotional Intelligence, Healthcare, Contracts & Arbitration, and similar topics of interest to standard engineering professionals
 5. DL Evaluation procedure to be further fine-tuned to become a standard procedure
 6. Currently, there are low changes in the DL list over time: it’s recommended to add further new blood in the list on annual basis
 7. DL Nomination Issues: low number of new DL nominations is received every year, which is believed to be the root cause for slow changes in the provided DL diversity and topic offerings. This requires a plan for Active Outreach.
 8. **Action Item (11):** Staff to send semi-annual promotional-announcement-emails to all ASHRAE Members about the DL nomination deadline and useful links... (Operations Subcommittee could help in this regard)
 9. **Action Item (12):** Initiate a new “DL Diversity& Outreach Ad Hoc” to work on the above items and finalize recommendations for the CTTC conclusion in the Winter Meeting.

6. Technology Awards

- a. Judging panel
- b. *Diversity in recipients:*
 - i. *2021 Recipients (1st, 2nd, and HM):*
 1. *28 engineers listed, 3 female = 10.7% female*
 - ii. *2020 Recipients (1st, 2nd, and HM):*
 1. *39 engineers listed, 2 female = 5.1% female*
 - iii. *2019 Recipients (1st, 2nd, and HM):*
 1. *31 engineers listed, 3 female = 9.6% female*
 - iv. *2018 Recipients (1st, 2nd, and HM):*

1. 37 engineers listed, 1 female = 2.7% female
- v. 2017 Recipients (1st, 2nd, and HM):
 1. 21 engineers listed, 3 female = 14.2% female
- c. Subcommittee note: ASHRAE requires to increase female membership
- d. **Action Item (13)**: the above items to be considered in the Promotion Award Nomination Ad Hoc with further focus on Active Outreach.

Operations Subcommittee Report

Chair: Daniel Robert
 Staff: Rhiannon
 Present: Matt Archey
 Christopher Adams
 Elizabeth Zakelj
 John Constantinide
 Heric Holmes
 Frank Rivera
 Arunabha Sau
 Kenneth Shifflett

General: Good participation of all members

1. Status of Assigned Action Items

- a. Committee has reviewed the assigned actions items: all assigned action were completed/no outstanding items to discuss

2. Ad Hoc Updates

- a. Online Chapter Programs (Constantinide, Holmes, Page, Bertuch)
 - i. John C indicated that the Online Chapter Ad Hoc has provided recommended revisions to the ASHRAE Communications Committee's Virtual Meeting Guidance, expanding on CTTC direction and links to resources for planning technical webinars, virtual DLs, and PDH reporting.

3. Tech Hour

a. 2020-2021 Tech Hour Report:

- i. Filming of the BEQ tech hour has been completed. This is the second tech hour produced this year. The final edits were made on Friday June 11, 2021 for release on June 16, 2021. There has been great collaboration between the BEQ subcommittee and the Tech Hour group which helped to speed up production. With the hopes that the next few can be as seamless.
- ii. We have a number of potential topics for next year. This are attached below. The plan will be to have 4 videos made. The production will be combination of in person at the ASHRAE headquarters and remote, depending on the speaker's requirements and ASHRAE's travel requirements.
- iii. A number of groups within ASHRAE have reached out to add in their own advertising, for example E- Learning. Our recommendation is for us to offer them the time, 2 minutes at end of the production and for them to arrange production for it.
- iv. **Commissioning Tech Hour views:** 536 as of 4/23. We consider this as an OK number considering the high volume of web-based seminar that were developed by the industry during the last pandemic. As the tech-hour will be available throughout the year and in the future, we expect that the number of viewer will continue to raise. Considering the low cost of creating these tech Hour, we are to continue doing them.

b. Topics for ASHRAE Tech Talk, SY 2021-2022:

- i. The goal moving forward is to do 3 to 4 Tech-hours/year. In order to do so, we are to continue searching for interesting subjects and to find knowledgeable and interesting

speakers to present. **Action Item (14):** Conduct a call to select topics for the 21-22 SY. The following subjects and potential speaker was elaborated

1. Balancing IAQ and Energy Conservation During and After COVID-19
 - a. Committee (TC): (TRG4) EHC
 - b. Potential DL: James L. Newman, Om Taneja
 2. The Financial Case for High Performance Buildings
 - a. Potential DL: R. Christopher Mathis
 3. Resilience Lessons for Post-COVID Building Preparedness
 - a. Committee (TC): EHC
 - b. Potential DLs: T. David Underwood, Daniel H. Nall
 4. High Performance refrigeration requirements, room design and affects to cooling
 - a. Committee (TC): (TC9.9)
 - b. Potential DLs: Douglas T. Reindl, Ph.D., P.E., Roberto R. Aguilo, P.E., Julian R. de Bullet
 5. Net Positive Energy Design
 - a. E-Learning:
 - i. [Peter Simmonds, Ph.D., Fellow ASHRAE](#)
 - ii. [Charles Eley, P.E., AIA, CEM, Fellow ASHRAE, BEMP, LEED® AP](#)
 6. ASHRAE Headquarters
 - a. The design team was administered by a dedicated committee of ASHRAE volunteer experts. (Integral Group)
 7. Design with Inclusivity in mind
 - a. Potential DLs: Karine Leblanc US Air Conditionings Distributors
 8. Decarbonization, Electrification, new laws SPC status
 - a. Potential DLs: Chandana N. Dalugoda, Frank Mills
 9. Industrial ventilation
 - a. Committee (TC): (TC9.2)
 - b. Potential DLs: Erich Binder, Charles E. Gullledge, III, P.E.
 10. ISO clean room HVAC design
 - a. Committee (TC): (TC9.11)
 - b. Potential DL: Jack Zarour
 11. Data center (TC9.9)
 - a. Committee (TC): (TC9.9)
 - b. Potential DLs: Kishor Khankari, Ph.D., Christopher O. Muller, James Vallort
4. **Chapter Notes Newsletter**
- a. **Action Item (15):** Staff to provide text presented in the past years for each subject: to be used as a guideline for topic write-up. Each topic (6) will be given to each subcommittee members to edit/re-write in due time (end of previous month).
5. **PAOE**
- a. PAOE review will be starting late 2021 and early 2022 as the new president prepare his Presidential Initiatives Master List.
6. **Old Business**
- a. No old business was discussed
7. **New Business**
- a. No new business

Management by Objectives
Chapter Technology Transfer Committee
ASHRAE Society Year 2020-2021
Thursten Simonsen, Chair

MBO	Status	Due Date	Assigned To	MBO Comments
<p>1. RVCs to coordinate with chapter program chairs to continue hosting a full chapter year of monthly meetings and programs, whether in-person or virtually as local and regional conditions dictate. RVCs and chapter program chairs to promote flexibility in responding to local ordinances and regulations related to the global pandemic while still engaging with chapter members in educational programs throughout the year.</p>	Complete	June 2021	All RVCs	ASHRAE Strategic Plan Goal 2 promotes maximizing member value and engagement, including through the leveraging of technology. The impacts of the global pandemic have brought immediate reductions to in person education and technology transfer; however CTTC is in a prime position, through chapter programs, to continue promoting education and programs to chapter members.
<p>2. Each RVC to work with chapter programs chairs to identify a minimum of five (5) organizations (i.e. local or regional councils, sustainability organizations, city or state energy efficiency organizations, or similar organizations) – and set up inperson or virtual introductory meetings to promote ASHRAE’s essential knowledge and resources for a sustainable, high-performance built environment.</p>	Complete	June 2021	All RVCs	This aligns with ASHRAE Strategic Plan Goal 1 – and promotes local and regional engagement with organizations and councils that may align with ASHRAE’s base of knowledge and expertise and drive positive economic, environmental, and social impact through innovation in building design and operations.

<p>3. CTTC Tech Hour Ad Hoc Committee and RVCs continue to develop the ASHRAE Tech Hour program to deliver multiple relevant and innovative tech hour programs during the 2020-21 society year. Goal to develop and publish a minimum of three (3) tech hour programs despite the limitations posed by the global pandemic, and to fully engage the ASHRAE marketing initiative for the ASHRAE Tech Hour.</p>	<p>Complete</p>	<p>May 2021</p>	<p>All RVCs and Tech Hour Subcommittee</p>	<p>In 2019-20 CTTC rebranded the ASHRAE Webcast as the ASHRAE Tech Hour and posted two programs. Development has halted due to global pandemic restrictions. Tech Hour programs must continue development in a manner to accommodate the travel and social distancing concerns of Covid-19.</p> <p>This supports Strategic Plan Goal 3 – Optimize ASHRAE’s Organizational Structure to Maximize Performance</p>
<p>4. RVCs to coordinate with chapter program chairs to schedule distinguished lecturer virtual presentations to each chapter during this society year. The global pandemic has curtailed travel; however with technology distinguished lecturers may continue to present to chapters. The goal is to have all allocated DL visits schedule by December 2020 as would occur during a typical chapter year, with chapters taking full advantage of technology to deliver virtual programs as needed and required.</p>	<p>Complete</p>	<p>December 2020</p>	<p>DL Program Ad Hoc and RVCs</p>	<p>The DL program has been a consistent method of transferring ASHRAE’s depth of knowledge and resources to local and regional membership through technical program. RVC’s shall work to continue full utilization of the DL program during the society year, even though most or nearly all of the programs must be delivered through virtual meeting technology.</p> <p>This supports Strategic Plan Items 3 and 4 – Organizational streamlining and improved chapter engagement.</p>

<p>5. Work with all RVCs to increase the number of Technology Award submissions, including a minimum of one ASHRAE Technology Award submission from Region VIII (Mexico), Region XII (South America), Region XIII, Region XIV, and Region-at-Large for a minimum of 5 total from outside North America.</p>	<p>In Process</p>	<p>June 2021</p>	<p>All RVCs</p>	<p>International submissions to this award have been low for a number of years and this is an ongoing commitment of the committee to try and increase participation in these awards from engineers and owners outside North America. RVCs to work with CRC award recipients to submit for Society Awards.</p> <p>This supports Strategic Plan Initiative 1, 2 and 4: Resilient Buildings, IEQ and Improve Chapter Engagement.</p>
<p>6. Full Sub-Committees (Operations and Member Services) to have individual conference calls mid-way between each meeting – total 2 per year for each of the CTTC sub-committees</p>	<p>Complete</p>	<p>November 2020 & March 2021</p>	<p>Member Services & Operations</p>	<p>This was something that our previous chairs, Farhan Mehboob and Nathan Hart, initiated and continued over the past two years. This has helped to increase communication and maximize volunteer time and effort. This aligns with ASHRAE strategic Plan item 3 – Organizational Streamlining.</p>

MANAGEMENT BY OBJECTIVES

CHAPTER TECHNOLOGY TRANSFER COMMITTEE ASHRAE SOCIETY YEAR 2021-22

MOHAMMAD TASSI, CHAIR

MBO	STATUS	Due Date	Assigned To	MBO Comments
1. Work with all chapters to conduct at least two HVAC events relevant to COVID-19 Precautionary measures and recovery plans	Open	June 2022	All RVCs	In line with ASHRAE Strategic Plan/ Item 2: Indoor Environmental Quality. Given the ongoing COVID-19 Pandemic, this initiative becomes of high importance
2. Work with all chapters to appoint at least one CTTC Co-Chair (vice-chair) per chapter (Target: at least 80% of chapters)	Open	June 2022	All RVCs	Capacity building, sharing expertise and succession planning are essential factors for CTTC success at Chapter, Regional and Society levels.
3. Resume the original plan for broadcasting three Tech-Hours per year	Open	June 2022	Operations Sub-Committee	In line with ASHRAE Strategic Plan/ Item 4: Improve Chapter Engagement, Capacity and Support
4. Set a plan for further collaboration with TCs and other ASHRAE Committees	Open	June 2022	Operations Sub-Committee	In line with ASHRAE Strategic Plan/ Item-3: Organizational Streamlining.
5. Finalize the online DL Evaluation system, and enroll it at least for interested Chapters	Open	June 2022	- Services Sub-Committee, - Digital DL Evaluations Ad HOC & - Online DL Ad Hoc	In line with ASHRAE Strategic Plan/ Item-3: Organizational Streamlining. The current DL operations includes inefficient manual DL forms for request, approval, and evaluation process with filling multiple manual forms and rolling them via multiple emails in addition to maintaining manual DL logs and statistical records
6. Work towards reaching online DL platform that covers DL requests, approval and logging capabilities. (Target: finalize a reliable robust plan for implementation at a later stage)	Open	June 2022		
7. Review the current DL selection criteria, and existing DL database, then initiate proper measures for providing wider DL diversity of relevant topics (leadership, management, finance...), languages,	Open	June 2022	- Member Services Sub-Committee & - DL Program Team	In line with ASHRAE Strategic Plan/ Item-3: Organizational Streamlining. The DL program has high potentials for reaching wider range of audience and facilitating higher

gender (more female DLs), and even age groups (opportunities for YEA)				chapter engagement through providing wider spectrum of program deliverables
8. Conduct at least two additional full Sub-Committee virtual meetings per year (in addition to the Winter and Annual Meetings)	Open	Fall 2021 Spring 2022	<ul style="list-style-type: none"> - Operations & Member Services Sub-Committees - Staff support 	In Line with ASHRAE Strategic Plan/ Item-3: Organizational Streamlining. This initiative proved to Enhances CTTC communications, and leads to higher level of preparedness for the full Committee meetings

2021-2022
Chapter Technology Transfer Committee (CTTC)
Assignments
6/16/2021

Member Services Subcommittee

Daniel Robert – Chair
 Christopher Adams
 Abigail Brophy
 John Constantinide
 Mahroo Eftekhari
 Ahmad Nour
 Grant Page
 Janice Peterson
 Thiago Corrêa Fonseca Portes
 Daniel Redmond

<p>Distinguished Lecturer Program John Constantinide – Chair Daniel Redmond Janice Peterson</p>	<p>Dan Mills Chapter Programs Award Daniel Redmond Janice Peterson Grant Page</p>	<p>Donald A. Siller Refrigeration Award Mahroo Eftekhari Grant Page Christopher Adams</p>
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Operations Subcommittee

Andrew Reilman – Chair
 Matt Archey
 Tyler Bradshaw
 Heric Holmes
 Renjie Jerry Huang
 Frank Rivera
 Arunabha Sau
 Kenneth Shifflett
 Elizabeth Zakelj

<p>Tech Hour Heric Holmes – Chair Mohammad Al Tassi Daniel Robert Andrew Reilman Frank Rivera Bert Philips</p>	<p>PAOE Andrew Reilman – Chair Matt Archey</p>
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Technology Awards Judging Panel

Member	Position
Andrew Reilman	Chair
Charles Bertuch	Region I Representative
Robert Kilpatrick	Region II Representative
Tyler Berry	Region III Representative
Wei Dong (Bill) Wang	Region XIII Representative
Mahroo Eftekhari	Region XIV Representative
Krishnan Gowri	Technology Council Representative
Janice Peterson	CTTC Chair's Choice

Technical Committee Section Liaisons and Position Alias

TC Section	CTTC Member	Position Alias
Chair	Mohammad Al Tassi	cttcchair@ashrae.net
Vice Chair	Daniel Robert	cttcv1@ashrae.net
Vice Chair	Andrew Reilman	cttcv2@ashrae.net
TC Section 1	Frank Rivera	cttc1@ashrae.net
TC Section 2	Daniel Redmond	cttc2@ashrae.net
TC Section 3	Matthew Archey	cttc3@ashrae.net
TC Section 4	Christopher Adams	cttc4@ashrae.net
TC Section 5	Arunabha Sau	cttc5@ashrae.net
TC Section 6	Elizabeth Zakelj	cttc6@ashrae.net
TC Section 7	Grant Page	cttc7@ashrae.net
TC Section 8	Kenneth Shifflett	cttc8@ashrae.net
TC Section 9	Abigail Brophy	cttc9@ashrae.net
TC Section 10	Tyler Bradshaw	cttc10@ashrae.net

Council/Committee Liaisons

Members Council	Mohammad Al Tassi
Members Council PAOE Subcommittee	Andrew Reilman
Building EQ	John Constantinide

Mentors

Incoming CTTC Member	Mentor
Frank Rivera	Mohammad Tassi
Tyler Bradshaw	Daniel Robert
Kenneth Shifflett	Andrew Reilman
Thiago Corrêa Fonseca Portes	Heric Holmes
Abigail Brophy	Christopher Adams

Ad Hoc Committees

<p>Online Chapter Programs John Constantinide – Chair Heric Holmes Grant Page</p>	<p>DL Automation Adhoc Daniel Redmond – Chair Grant Page John Constantinide</p>	<p>Promoting Award Nominations Mahroo Eftekhari, Chair Chris Adams Liz Zakelj Aru Sau</p>
<p>DL Diversity & Outreach Ad HOC John Constantinide, Chair Andrew Reilman Mahroo Eftekhari Liz Zakelj Heric Holmes Abigail Brophy Janice Peterson</p>		