

TC 8.5: Liquid to Refrigerant Heat Exchangers
Minutes ASHRAE 2025 Annual Meeting

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. TC8.5 DATE 06/23/2025

TC/TG/MTG/TRG TITLE Liquid to Refrigerant Heat Exchangers

DATE OF MEETING 06/23/2025 LOCATION Phoenix, AZ

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE	
Nicholas Zupp ('26)	7/1/2021	Khaled Saleh ('25)	7/1/2021	<u>Cor. Members</u>	<u>Pro Cor. Members</u>
Pratik S Deokar ('26) (YEA)	7/1/2023			Zahid Ayub	Laura Collazo Carballude
Kashif Nawaz ('27)	7/1/2023			Icksoo Kyung	Edith Luveina Joseph
Joe Huber ('27)	7/1/2023			Kalyan Boyina (YEA)	
Andreas Knoepfler ('25) (Int'l)	7/1/2021			Scott Wujek	
Benjamin Dingel ('26)	7/1/2022			ABM Imran Chowdhury (YEA)	
Gurunarayana Ravi ('26)	7/1/2022			Jim Bogart	
Druv Hoysall ('27)	7/1/2023			Man-Hoe Kim (Int'l)	
Justin Kauffman ('28)	7/1/2024			Satheesh Kulankara	<u>Guests</u>
				Pedro Perez	Mohsin Tanveer
				Michael Wilson	
				Vikrant Aute	
DISTRIBUTION: All Members of TC/TG/MTG/TRG plus the following:					

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TAC Section Head: Kashif Nawaz	SH8@ashrae.net
Research Liaison: Carl Huber Standard Liaison: Srinivas Katipamula Staff Liaison: Steven J Hammerling Handbook Liaison: Derek Crowe	srinivas.katipamula@pnnl.gov shammerling@ashrae.org derek.crowe@stantec.com
Mike Vaughn, Manager Of Research & Technical Services	MORTS@ashrae.net

YEA: Young Engineers in ASHRAE, Int'l: International Members, from outside USA and Canada

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

1. **Monday, June 23, 2025, 5:00 PM. Call to order and reading of TC 8.5 scope (N. Zupp):**
 - *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.*
2. **Introduction of members and guests (in-persona and virtual)**
3. **ASHRAE Code of Ethics Commitment (N. Zupp)**
 - *"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>)*
 - Shared ASHRAE's Commitment of Health and Safety of the members and conference attendees.
4. **Establish quorum requirements (N. Zupp)**
 - 8 out of 10 voting members present, quorum established. Kashif came in later for a total of 9 members (five present).

Nicholas Zupp (chair) '26	Andreas Knoepfler '25	Khaled Saleh '25	
Pratik Deokar (Vice Chair) '26	Benjamin Dingel '26	Justin Kauffman '28	
Kashif Nawaz ('27) [joined the meeting later]	Gurunarayana Ravi, '26		
Joe Huber '27	Druv Hoysall '27		

No quorum at first for minute approval yet.
The handbook chair attended the training.

- Shared e-mail aliases of subcommittee chairs in attached presentation.
5. **Review/approve minutes from previous meeting with corrections (N. Zupp)**
 - Items 3 and Item 4 need to change name to Nick Zupp.
 - Kashif moved to approve, Justin seconded
 - The vote was 9-0-1.
 6. **Handbook subcommittee report (A. Joardar)**
 - TC is responsible for editing Chapter 39: Condensers and Chapter 42: Liquid Coolers. None of them are in revision.
 - There is a 4-year cycle. Arindom will check when they are next going to be due for revision. He will bring this info on next meeting. Was not able to attend this time. Plan to attend handbook training next meeting.

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- The chapter edits can be done only through authoring portal (authoring.ashrae.org) in PDFs, and is suggested to leave the Track Changes on whenever possible
- Future edits will be for 2028 Handbook version

7. Program subcommittee report (P. Mehdizad)

- Proshat not present.
- Deadline to submit is early August.
- We can follow up with program subcommittee chair and can follow up with email ballots.

8. Standards subcommittee report (J. Huber)

- TC 8.5 is responsible for ANSI/ASHRAE Standard 22-2023, 24-2019, and 181-2023
- STD 22 Methods of Testing for Rating Liquid-Cooled Refrigerant Condensers, STD 24 Methods of Testing for Rating Evaporators Used for Cooling Liquids, STD 181 Method of Testing for Rating Liquid-to-Liquid Heat Exchangers.
- Std 22 and 181 were recently revised and published after revision in 2023.
- Standard 24 is in the process of being revised. This past spring SPC finished revisions to the standard and sent a draft out for publication for public review. No comments on PPR draft. Draft has moved on to galley proof phase and after that the std revision is complete.

9. Webmaster report (P. Perez)

- Website is up to date.

10. Research subcommittee report (K. Nawaz)

Main topics from Research Breakfast:

- Update from RAC meeting that was this morning. Quick update about RTAR 1983 and new topic areas.
- Kashif attended the RAC meeting this morning.
- ASHRAE has funded more than 1000 projects since 1959. All reports are available as needed.
- Strategic plan is available for review. Highly recommended to review as we put RTARs together to stay within the strategic plan.
- RAP (Research Advisory Panel):

Research Advisory Panel (RAP)

*RAP shall have responsibility for **collecting and evaluating information on leading-edge technology** of interest to and bearing on the HVAC&R industry and to develop the 8-year strategic research plan. Where appropriate, **RAP shall also recommend modification to policies and procedures that make research into these areas more feasible.***

- Activities to be highlighted:
 1. 24 active research projects.
 2. 20 grants-in -aid

3. SY 24-25 \$3.9M.
 4. 0 RTARs in March 1 in May. Encouraged to submit RTARs.
- If you are re-submitting an RTAR please address the feedback that was provided. Recommended adding a cover sheet showing the comments were addressed.
 - Some reminders for PES/PMS Proposal Evaluation Subcommittee and Project Management Subcommittee:
 - More in-person cadence in the future.

Additional reminders for PES/PMS

- Recorded Training must be completed before serving on PES and PMS. There is also on-line Q&A in spring and fall. **Next session: September 9, 1pm EST.**
- Pre-schedule your 2 PES meetings so there is no delay once you receive bid packages. 2 RAC members must be invited to your PES and PMS meetings to ensure proper procedures are followed.

	Fall Solicitation	Spring Solicitation
Projects released for bid	Mid October	Mid March
Bids due from potential contractors	Mid December	Mid May
Contractors selected	Winter meeting	Summer meeting
Earliest possible start date for project	April 1	September 1



Do RAC members need to be invited to the PES meetings?

- Only during the evaluation process.
- The RAC members are assigned, and they have to be in the meetings.

There will be some communication with RAC to improve wording on the PES and PMS meetings slide.

- **ASHRAE Research Portal:** New Development – Online tool for communication about RTARs. More automated system. The most systematic approach with updates.
- New investigator award. Deadline Dec 1st.

Summary of ASHRAE Award Deadlines			
Award	Amount	Recipients	Submission Due
New Investigator Award	125 K	1	Dec. 1, 2025
Graduate Student Grant-in-Aid	5K +5K, 1.5K honorarium STBE	10-20	March 3, 2025
Homer Addams	3.5K	1	Dec. 15, 2025
Innovative Research Grant	50K +50K +25k	1	Dec. 3, 2025 Preproposal
Service to ASHRAE Research	Plaque	1*	Sept. 1, 2025

- **Student Grant-in-Aid:** encourage students to apply for this program.
- **RTAR 1983:** Ben D. will work on the feedback.

Research Ideas/Topics:

- **Data Centers:**
 - Opportunities from TC 9.9 to co-sponsor from this committee. Kashif is gathering their information from their research chair. Several projects that are very much aligned and overlap with TC 8.5s work. For example: interest in looking at the fluids from the immersion cooling process. When looking at the overall physics involved and enhanced surfaces it very much overlaps with the scope of 8.5.
- **Correlations of Fluids in High Temperatures:**
 - Joe H. proposed looking at correlations of fluids in high temperatures. This had been mentioned by Satheesh in the research meeting.
 - Satheesh indicated Data Centers and High Temperature Applications are different. Both topics of interest. Connect better with 9.9, like we do with 1.3 and 8.4. 1.3 may be better suited for this type of research statement.
 - Research subcommittee met yesterday and Kashif will see what collaboration can be done. High temperature correlation development is an area where we can take the leading role.
 - Triple digits for evaporation are being discussed.
 - High temperature heat pumps also relevant.
 - Looking at temperatures 250 °C condensing (Heat Pump Water Heater), 150 °C. Maybe go in stages 90 °C, 100 °C, then we can go higher than that in other projects.
 - Data Center: External boiling possibly. Potentially inside as well.
 - Single tube, bundle, indoor tube, number of ways to look at this. Define before writing an RTAR. In the case of Data Centers fluids.
 - High Temperature Heat Pumps: 150 °C or higher so it is forward looking.
 - Kashif to schedule meeting with 9.9 but for the high temp heat pump needs to be pursued separately.
 - Members interested: Mike Wilson, Justin Kaufmann, Pedro, Kashif, Mosin Tanveer, Ben Dingel, Satheesh, Joe Huber, Nick Zupp.

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- Some new fluids could be involved. Some potential conflict with the research not being precompetitive.
- Hydrocarbons: 1.3 propane boiling in microfin tubes which we would ask 8.5 to co-sponsor.

Slides: For additional information on the Research Administration Committee (RAC) update please refer to the attached slides.

11. **Report from Chair's Breakfast** (N. Zupp)

- Government Affairs Committee: Reviewed challenges and activities.
- New TC 9.13 SPACE. Deals with extraterrestrial and deep space environmental control system.
- MTG.GenAI for the purpose of supporting the adoption of Generative AI.
- TAC Updates
 - Mentioned a mentoring program for young Engineers.
 - Standards committee s=chair encourage to suing up and provide feedback.
 - Standards updates.
 - Difficulty engaging handbook subcommittee chairs in some TCs.
- For additional information on the Chair's Breakfast please refer to attached slides.

12. **Section Head comments** (K. Nawaz)

- Breakout session. Presentation on Basecamp Site.
- Kashif: July 1st is when you will see roster update. You will see the changes at the start of the next society year, July 1st. Government affairs a lot happening. You can sign up for the biweekly email updates.
- Encouraged to attend standard subcommittee chairs since there have been changes in procedures.

13. **Membership subcommittee report** (S. Kulankara)

- Andrea's, Khaled rolling off.
- Justin Kauffman is a voting member.
- Achim, Mike, Vikrant added.
- 10 YEA members.
- 18 Pro CM.
- Encouraged PCM to convert into CM please send note to Satheesh to include in next roster update.

We had quorum 6:49 pm MST.

14. **MTG Liaison** (S. Kulankara)

- Always meets on Wednesday so it is after the meeting. For this reason the Orlando Metting update was presented.

TC8.05 MTG.LowGWP

- MTG meet on Wednesdays of the conference. Last meeting on 2/12/2025 at Indianapolis
- Two programs co-sponsored by the MTG.LowGWP at Phoenix
 - Seminars 4 and 10 (also co-sponsored by TC 8.5)
- Research
 - RP 1806 “Flammable Refrigerants Post-Ignition Simulation and Risk Assessment Update”
 - Recommendation on Go/No Go on next phases of the project awaited
 - RP-1884 “The incorporation of odorants in flammable refrigerants to improve leak detection (Experimental Phase III)”
 - Completed February 2025; Research report available
- Codes and Standards subcommittee continues to track updates to various codes and standards related to the use of lower GWP refrigerants

TC 8.05 Liquid to Refrigerant Heat Exchangers

20

Right now, the MTG is focused on Programs (requests for co-sponsorship and sponsoring their own programs.

Seminar 4 and 10. Seminar 10 is also co-sponsored by TC 8.5. Some updates on what is recommended to odor on project RP1806. As an MTG they will make a decision on whether it will continue. It has been at a standstill for a year.

RP-1884 finished, already in ASHRAE portal.

Codes and standards subcommittee tracking updates.

There is expected to be a discussion at this meeting as to whether the MTG should wrap up as an MTG. The codes and standards would be worthwhile if it continues in some way. With A3 refrigerants maybe the MTG needs to continue.

Satheesh wanted opinion from the committee as to what we are thinking as to the continuation of MTG. Kashif suggested changing the purpose of the committee to A3. Satheesh indicated it could be complicated. Joe supports continuation of codes and standards tracking portion of MTG.

If MTG is a no-go need to find a home for RP-1806. MTG normally is set up for multiple TCs and then it ends. General consensus is if it is dissolved finding home for Codes, Standards and Projects. If not, it should continue.

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15. New Business
None

16. Next meeting
Las Vegas Jan 31- Feb 4.

17. Adjourn

Attached: Meeting Slides, RAC Slides.



ASHRAE Technical Committee 8.5

Liquid to Refrigerant Heat Exchangers

2025 ASHRAE
Annual Conference

June 21-25 | Phoenix, AZ

Welcome

ASHRAE is committed to the health and safety of our members and conference attendees.

- Masks may be worn at the individual's discretion. Masks are not required inside the conference hotels but are strongly encouraged.
- Hand sanitizing stations will be positioned throughout the meeting space.
- If symptoms develop, attendees should NOT attend sessions and can join the conference virtually.
- If an attendee tests positive while at the conference, he or she may quarantine at the conference hotel at their own expense and should report the positive test to ASHRAE staff.
- **View the full Commitment to Care at [commitment-to-care.pdf \(ashrae.org\)](#)**

TC 8.5 Call to Order and Scope

ASHRAE Technical Committee 8.5 Liquid to Refrigerant Heat Exchangers

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.

ASHRAE Code of Ethics

In ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and shall avoid all real or perceived conflicts of interest. Our culture is one of inclusiveness, acknowledging the inherent value and dignity of each individual. We celebrate diverse and inclusive communities, understanding that doing so fuels better, more creative and more thoughtful ideas, solutions and strategies for the Society and the communities our Society serves. We respect and welcome all.

Code of Ethics - <https://www.ashrae.org/about/governance/code-of-ethics>

Core Values - <https://www.ashrae.org/about/ashrae-s-core-values>

Introduction of Members and Guests

Introduction of our members and guests...

Please give your name and affiliation, and any TC 8.5 committee duties you have.

In-person attendees will go first

- Please be sure to note your attendance on the sign-in sheet.

Online attendees will go next

- Wait for a brief pause, and then speak. Remember to unmute before speaking, and then mute again after you have finished speaking.
- Please send an email to TC0805@ashrae.net with subject “attendance 2/9” so we can log your attendance. Make sure the email contains your full name and please indicate if you are a YEA member.

Quorum Determination

- Nick Zupp (chair) '26
- Pratik Deokar (Vice Chair) '26
- Kashif Nawaz '27
- Joseph Huber '27
- Andreas Knopfler '25
- Benjamin Dingel '26
- Gurunarayana Ravi '26

- Dhruv Hoysall '27
- Khaled Hassan Saleh '25
- Justin Kauffman '28

**_5_ Voting Members Present
Of 10
Quorum Achieved**

Voting Members roll off after June 30 of the year indicated

Curret Positions on TC and Email Aliases

- Nick Zupp – Chair (TC0805@ashrae.net)
 - Pratik Deokar - Vice Chair (TC0805.VCH@ashrae.net)
 - Pedro Perez – Secretary (TC0805.SEC@ashrae.net)
 - Proshat Mehdizad – Program (TC0805.PRO@ashrae.net)
 - Pedro Perez – Webmaster (TC0805.WEB@ashrae.net)
 - Kashif Nawaz – Research (TC0805.RES@ashrae.net)
 - Joe Huber – Standards (TC0805.STD@ashrae.net)
 - Arindom Joarder – Handbook (TC0805.HBK@ashrae.net)
 - Satheesh Kulankara – Membership
 - Satheesh Kulankara – MTG LGWP Representative
 - Vikrant Aute – MTG LGWP Representative (Alternate)
-
- The full list of aliases can be found on the Technical Committees page on the ASHRAE website

Approval of Minutes from Annual Meeting

- Minutes from the Winter Meeting were sent out 19 June 2025
 - Does anyone want to review?
 - Motion for Approval: KAshif
 - Second:Justin
 - Vote
 - For Approval:
 - Against approval: 0
 - Abstain:
 - Not Present:

- Arindom Joarder is Handbook Subcommittee Chair
- TC 8.5 is responsible for Chapters 39 and 42 of the ASHRAE HVAC Systems and Equipment Handbook
- Handbook in pdf version available through the technology portal of ASHRAE (technologyportal.ashrae.org)
- Handbook Liaison (our chapters): Derek Crowe (derek.crowe@stantec.com)
- Did the Handbook chair attend training? __Y__

- Data for TC Activity Form

Handbook Responsibilities		
Total Number of Chapters	2	
Chapter(s) approved at this meeting	0	
Special Publications (last six months)	0	Title(s):



TC 8.5: Liquid to Refrigerant Heat Exchangers

Program Subcommittee Updates

Proshat Mehdizad

TC8.05 Program

- Data for TC Activity Form

Program Activities (For This Meeting)											
Total # of Forums			Total # of Seminars			Total # of Debates			Total # of Paper Sessions		
Submitted*	Accepted*	Co-sponsored**	Submitted*	Accepted*	Co-sponsored**	Submitted*	Accepted*	Co-sponsored**	Submitted*	Accepted*	Co-sponsored**
0	0	0	0	0	0	0	0	0	0	0	0
Other Presentations											
TC Research Results						Other Papers***					

Did the Program Subcommittee chair attend training? _____

- Joseph Huber is the TC8.05 Standards Subcommittee Chair
- **TC 8.5 is responsible for the following Standards:**
 - ANSI/ASHRAE Standard 22-2023
Methods of Testing for Rating Liquid-Cooled Refrigerant Condensers
 - ANSI/ASHRAE Standard 24-2019
Methods of Testing for Rating Evaporators Used for Cooling Liquids
 - ANSI/ASHRAE Standard 181-2023
Methods of Testing for Rating Liquid to Liquid Heat Exchangers
- **The revision and publication process was recently completed for**
 - Standard 22-2023
 - Standard 181-2023

TC8.05 Standards

- TC 8.5 voted to revise Standard 24-2019 to correct:
 - Remove normative reference to ASHRAE Guideline 2 (Engineering Analysis of Experimental Data)
 - Guideline 2 has been withdrawn, and Guidelines should not be referenced normatively, since they suggest practices and procedures, not mandate them
 - Fix other out-of-date references
- The SPC developed a Publication Public Review draft that was sent out for 45-day public review this past spring.
- There were no comments on the PPR draft, so the draft has moved on to the galley proof phase.

TC8.05 Standards Data Activity Form

Joe Huber

- Data for TC Activity Form

Standards Responsibilities	
Total Number of Standards	3
# Standards recommended	0

TC8.05 Webmaster

Pedro Perez



Liquid-to-Refrigerant Heat Exchangers
ASHRAE Technical Committee 8.5

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Agenda

TC805 2025 Winter Orlando Agenda 20250210

Upcoming TC Meetings

Location: Hilton Orlando Orlando, FL	
Date/Time	Room/Access
TC 1.3 / 8.5 Research Review Meeting Sunday, February 9, 2025 3:00 PM–5:00 PM EST	Hilton Orlando, Key West B (Lower Level) Virtual Access: Click Here.
TC 8.5 Liquid to Refrigerant Heat Exchangers Monday, February 10, 2025 2:30 PM–5:00 PM EST	Hilton Orlando, Florida 3 (Lower Level) Virtual Access: Click Here.

[See More](#)

Committee Chair

Mr Nicholas G Zupp
TC0805@ashrae.net

Committee Scope

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.

[More](#)

Upcoming Society Conferences

ASHRAE 2025 Winter Conference
February 8-12, 2025
Orlando, FL

Minutes

[TC0805 2024 Annual Indianapolis Minutes \[Draft\] 20240624](#)
[TC0805 2024 Winter Chicago Minutes 20240122](#)

- **TC 8.5 Website is up-to-date:**
- TC Meeting Schedule ✓
- Orlando Meeting Agenda ✓
- Indianapolis [Draft] Meeting Minutes ✓
- Chicago Approved Meeting Minutes ✓

TC8.05 Research

- Kashif Nawaz is the TC8.05 Research Subcommittee Chair
- Did Research Chair attend breakfast?_____

TC8.05 Research Data for Activity Form

- Data for TC Activity Form

Current Research Activities (active)	
# of new/revised RTARs submitted	0
# of other active RTARs	1
# of new/revised Work Statements submitted	0
# of other active Work Statements	0
# of active TRPs	0
# of active RPs	0
# of RPs completed & approved at this meeting	0
Problems getting RTAR/WS approved?	YES

TC8.05 Membership

- Healthy roster with 100 members
 - 10 YEA members
 - 18 Pro CM
- The following are rolling off as voting members after this meeting
 - Andreas Knopfler
 - Khaled Hassan Saleh
- After June 30, 2025 our membership will be:
 - Nick Zupp (chair) '26
 - Pratik Deokar (Vice Chair) '26
 - Benjamin Dingel '26
 - Gurunarayana Ravi '26
 - Kashif Nawaz '27
 - Joseph Huber '27
 - Justin Kaufman
 - [Achim Gotterbaum '28](#)
 - [Mike Wilson '28](#)
 - [Vikrant Aute '28](#)

TC8.05 Membership

- Term Limits Chair
 - 2 years with a 1 year extension through the approval of the Section Head;
 - The Chair's term is not limited by the policy limiting normal Member and Member Non-Quorum reappointments to four (4) consecutive terms.
- Vice Chair
 - 2 years;
- Chair and Vice Chair MUST BE ASHRAE members!
- The Chair should have served at least one one-year term as Vice Chair or Secretary.
- Corresponding Members can serve in all TC management positions except Chair.
- Refer to the FG Reference for more details

TC8.05 MTG.LowGWP

- MTG meet on Wednesdays of the conference. Last meeting on 2/12/2025 at Indianapolis
- Two programs co-sponsored by the MTG.LowGWP at Phoenix
 - Seminars 4 and 10 (also co-sponsored by TC 8.5)
- Research
 - RP 1806 “Flammable Refrigerants Post-Ignition Simulation and Risk Assessment Update”
 - Recommendation on Go/No Go on next phases of the project awaited
 - RP-1884 “The incorporation of odorants in flammable refrigerants to improve leak detection (Experimental Phase III)”
 - Completed February 2025; Research report available
- Codes and Standards subcommittee continues to track updates to various codes and standards related to the use of lower GWP refrigerants

TC8.05 Chair Report

- TC Chairs Meeting at 7:00 AM Sunday Morning (6/22/2025)
- Topics Reviewed
 - Society Overview
 - Society management structure
 - ASHRAE Strategic Plan
 - Effective Meetings
 - Special Projects & Center of Excellence for Building Decarbonization (CEBD) Update
 - Reviewed the Strategic Vision and activity of the CEBD
 - Conferences & Exposition Committee Update (CECC)
 - Reviewed the program statistics for this meeting
 - Shared the tracks, chair's names and key dates for the Winter Meeting in Las Vegas
 - Showed proposed Topics for the 2026 annual meeting in Austin

TC8.05 Chair Report

- Topics Reviewed (cont'd)
 - Government Affairs Committee (GAC) Update
 - Reviewed the activity and challenges facing the GAC
 - TC 9.13 SPACE (Extraterrestrial and Deep Space Environmental Control Systems)
 - A new TC dealing with Indoor Air Quality and maintaining the internal environment for space and extra-terrestrial activities
 - MTG.GenAI (Generative Artificial Intelligence)
 - A new Multidisciplinary Task Group has been started for the purpose of supporting the adoption of generative AI
 - TAC Updates
 - Mentoring Program
 - Roster Update Feedback
 - Standards Action - Can sign up for weekly Standards Action newsletter
 - Standards Subcommittee Chair is encouraged to sign up and provide feedback to FG on standards activities relevant to the FG
 - Handbook Updates – Problem with responsiveness from TCs
 - Section Breakout Session
- The entire presentation may be found on our Basecamp site at:
[ASHRAE TC 8.5](#) › [Docs & Files](#) › [Chairs Breakfast Presentations](#) › [FG Chair Breakfast_Phoenix 2025 - 2025-06-22a.pdf](#)

TC8.05 New Business

Nick Zupp

- TBD

TC8.05 Next Meeting

- The next TC meeting:
- Las Vegas, NV (a.k.a. Lost Wages)
- 2 to 4 February 2026
- Hotels
 - **No hotel info on ASHRAE Website yet**



TC Chair's Breakfast Meeting

Research Administration Committee Update

June 23, 2025

Natascha Milesi Ferretti, RAC Chair

Outline

- RAC Objectives and Membership
- ASHRAE Strategic Plan and Research Advisory Panel
- Research Promotion
- Budget update and Proposal Activity
- ASHRAE Research Portal Update
- Awards
- Summary



RAC Objectives

- Plan and coordinate research and technical studies in support of the ASHRAE Research Strategic Plan and provide for the dissemination of the results
- Coordinate other activities to promote HVAC&R research
- Strategically and ethically administer the Research Fund for the benefit of all ASHRAE members



RAC Membership for SY 24-25

Leadership	Research Liaisons	
Chair: Natascha Milesi Ferretti	Section 1: Srinivas Katipamula	Section 6: Matt Mullen
Vice-Chair: Jin Wen	Section 2: Chris Gray	Section 7: A. Chad Kirkwood
RPS Chair: Roland Charneux	Section 3: Zheng O'Neill	Section 8: Carl Huber
RAS Chair: James Bogart	Section 4: Dennis Landsberg	Section 9: Conor Murray
	Section 5: Douglas Scott	Section 10: WenBin Ng

RAC Membership for SY 25-26

Leadership	New Research Liaisons	
Chair: Jin Wen	Section 1: Srinivas Katipamula	Section 6: Matt Mullen
Vice-Chair: Roland Charneux	Section 2: Brian Fricke	Section 7: A. Chad Kirkwood
RPS Chair: Chris Gray	Section 3: Zheng O'Neill	Section 8: Carl Huber
RAS Chair: Dennis Landsberg	Section 4: Davide Ziviani	Section 9: Conor Murray
	Section 5: Douglas Scott	Section 10: WenBin Ng

Did You Know??

- ASHRAE currently has 37 active research projects.
- Since 1959, ASHRAE has sponsored 1007 projects for a total cost of about \$87.9M
- ASHRAE members have **FREE** access to **ALL** research project final reports
- ASHRAE provides its members with **FREE** digital downloads of all four Handbooks, which are the largest beneficiaries of ASHRAE research results.
- All this is on [*ASHRAE.org*](https://www.ashrae.org), just click on RESEARCH



2025–2028 ASHRAE Strategic Plan

STRATEGIC GOALS

1

Position ASHRAE as the **global leader** in advanced solutions to improve indoor environmental quality (IEQ) and address climate change.

2

Pursue **impact-focused engagement** by targeting stakeholders to support a strong workforce and maximize utilization, adherence, and trust of ASHRAE's global expert resources.

3

Increase the **accessibility** of ASHRAE content, resources, and member opportunities.

OBJECTIVES

- Lead the development of widely adopted standards to support indoor environmental quality, decarbonization, and resilience.
- Develop alliances and diverse working groups that position ASHRAE to lead and collaborate globally in identifying challenges, defining solutions, and developing approaches to address them.
- Develop resources based on member needs and industry trends.

- Tailor and target engagement and resources to ASHRAE members and defined key stakeholders.
- Provide guidance to targeted stakeholders on impactful ways to maximize the positive downstream effect of their engagement on the built environment.
- Empower professionals in their journey to maximize industry impact in support of ASHRAE's mission and vision.
- Pursue partnerships to amplify the impact of ASHRAE's mission and support the HVAC&R and built environment workforce.

- Identify and address structural, content, and financial barriers to access.
- Align communication and delivery methods and formats to enhance accessibility and effectiveness of content, resources, and volunteer opportunities.
- Strengthen communication channels with and through chapters and regions to empower contribution to the Society as thought partners in adapting resources to local context and needs.

Shaping Tomorrow's Global Built Environment Today

KEY ENABLERS

- **Research:** The value of ASHRAE's resources is grounded in unbiased data, developed through rigorous research methods.
- **AI:** The use of AI enables ASHRAE to improve data collection, automate internal operations, and promote agility.
- **Global Network:** ASHRAE's global network convenes the industry to generate unparalleled knowledge and content.

STRATEGIC INITIATIVES



Healthy, Sustainable and Resilient Communities

Providing a healthy, productive and resilient indoor environment, while minimizing greenhouse gas emissions, is critical to today's built environment. Further, global stakeholders' leveraging of ASHRAE's standards and technical resources presents an opportunity for ASHRAE to solidify global leadership in supporting healthy, sustainable and resilient communities. ASHRAE prioritizes timely identification of industry trends, expedient content development, and forges key partnerships to advocate and collaborate with industry.



Empowered Workforce

The development of a skilled, competent, and solutions-oriented workforce is critical to addressing the challenges facing the built environment and the HVAC&R industry, today and in the future. ASHRAE continues to provide educational and professional development resources. Our members and industry partners need these tools to implement key initiatives such as decarbonization, resiliency, and indoor environmental quality goals and policies. ASHRAE, with the support of our chapters and regions, partners with key industry stakeholders in tackling the unique workforce challenges facing the industry globally.



Organizational Agility

ASHRAE's ability to serve communities, the industry, the current and future workforce, and provide value to its volunteer members, is dependent on forward-looking products, services, and solutions. ASHRAE will use emerging technologies to support the development of resources and knowledge flow between ASHRAE's chapters, regions, technical bodies, and the industry, harnessing organizational and operational efficiencies.



Emerging Technologies

In today's rapidly evolving landscape, emerging technologies are revolutionizing the built environment and HVAC&R industry, expanding numerous career opportunities. By combining technological advancements such as AI with human creativity, both seasoned professionals and new talent can collaborate to drive industry-wide progress. Advanced automation and AI-enabled systems propel energy efficiency and smart buildings, enhance comfort and IEQ, improve operations and maintenance, and deliver holistic and sustainable solutions for industry professionals. ASHRAE engages in a thoughtful process to evaluate and prioritize opportunities to leverage new technologies.

OUTCOMES

- ASHRAE's member and volunteer base maximizes the organization's reach, foresight, leadership position, and organizational knowledge.
- A broad group of stakeholders leverage ASHRAE's resources to make decisions and meet objectives that positively affect the environment.
- A viable, thriving industry makes a positive global impact.



Research Advisory Panel (RAP) Update - Summary

June 24, 2025

Christopher Wilkins, RAP Chair

RAP Establishment and Duties

RAC Manual of Procedures

Part 1 Responsibilities/Duties

*A1.2 The RAC shall be responsible for notifying Technology Council every eight years when **a new Research Advisory Panel (RAP) [see Section F] needs to be established to develop a new Strategic Plan for ASHRAE Research.***



RAP Establishment and Duties

Part 1 Purpose

F1.1 *The purpose of the Research Advisory Panel (RAP) is to **develop the strategic research plan for the Society**. This strategic plan shall be updated every eight years.*

Part 4 Responsibilities

F4.1 *RAP shall have responsibility for **collecting and evaluating information on leading-edge technology** of interest to and bearing on the HVAC&R industry and to develop the 8-year strategic research plan. Where appropriate, **RAP shall also recommend modification to policies and procedures that make research into these areas more feasible.***



RAP Establishment and Duties

RAC Research Manual

ASHRAE Research Strategic Plan:

*The ASHRAE Research Strategic Plan is updated every eight years by the Research Advisory Panel **with input solicited from the TCs (and TGs, MTGs w/research authority, SSPCs, and other committees authorized to sponsor research projects), standing committees/councils and from individuals and organizations outside ASHRAE but with the same or related interests to ASHRAE.***



Research Advisory Panel (RAP) is Established



Riley Barta
Purdue University



Roland Charneux
Pageau Morel



Jon Douglas
Johnson Controls Int'l.



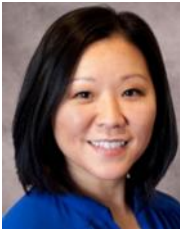
Stefan Elbel
TU Berlin



Chris Gray
EcoSmart Solution



Hyojin Kim
NJ Inst of Tech



Lisa Ng
NIST



Chun-cheng Piao
Daikin



Jin Wen
Drexel University



Chris Wilkins
RFS Engineering

10 Member Panel
Diverse Backgrounds



RAP Current Status

- Committee Roster Approved March 2025
- Virtual Kick Off Meeting May 2025
- First Formal Meeting in Phoenix (June 2025)
- Initial focus is to develop plan for “*soliciting input*” from within ASHRAE and beyond



RAP Current Status

- Three areas of focus or categories have been identified:
 1. **Topics/Subjects**
 2. **Outcomes/Deliverables**
 3. **Engagement/Procedures**
- Expect Research Strategic Plan to include recommendations and guidance structured in these categories.





Questions?



ASHRAE Research Promotion Campaign 2024-25

Chair: Les Pereira, lesper@me.com

1st Vice Chair: Haley Goslinga, haley.goslinga@trane.com

2nd Vice Chair: Andy Manos, andrewmanos22@gmail.com

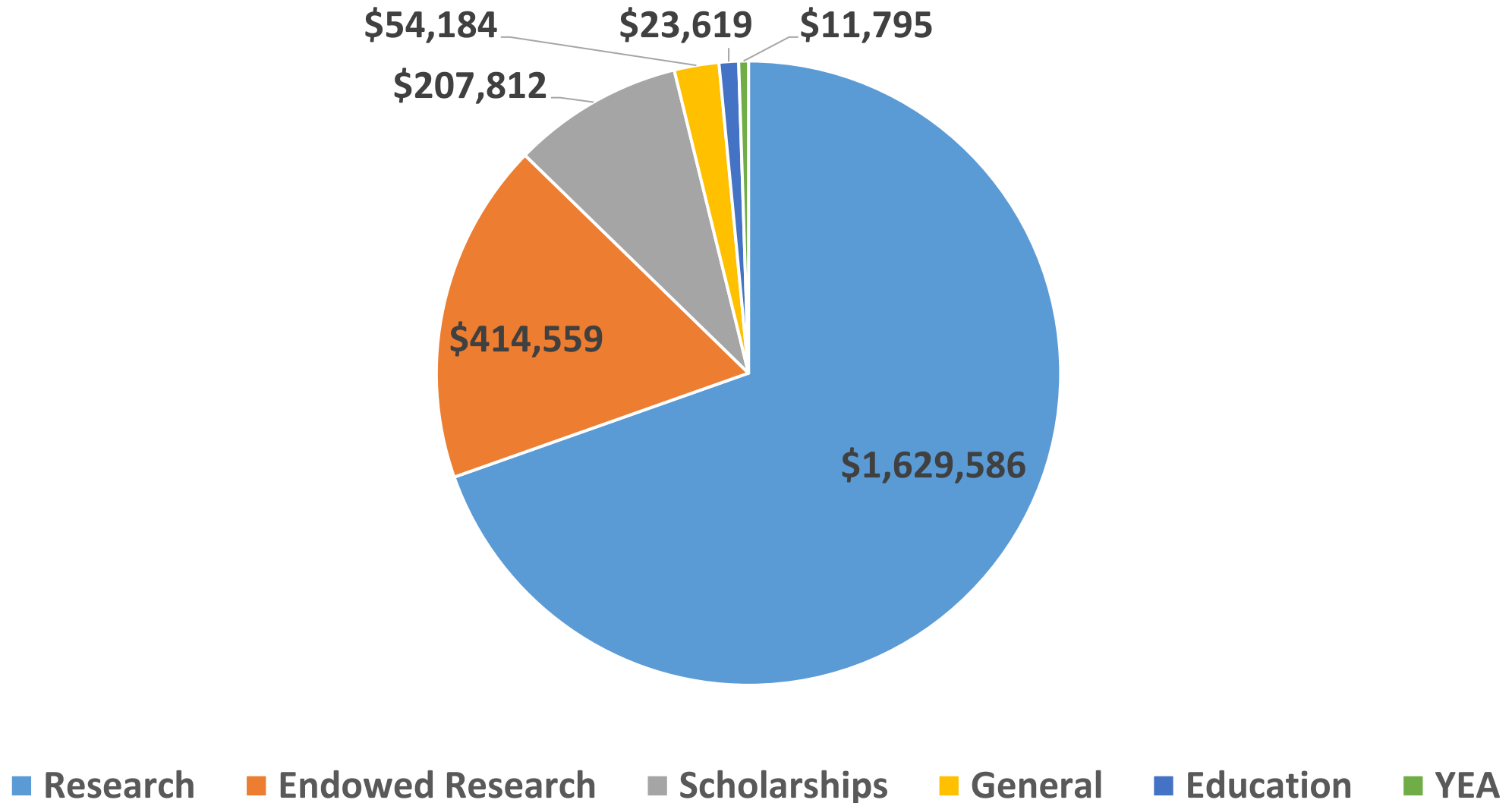
RP Campaign

YTD Results	Last YTD	% Ahead /Behind	Total Goal
\$2,309,888	\$2,171,676	6.4%	\$2,680,000

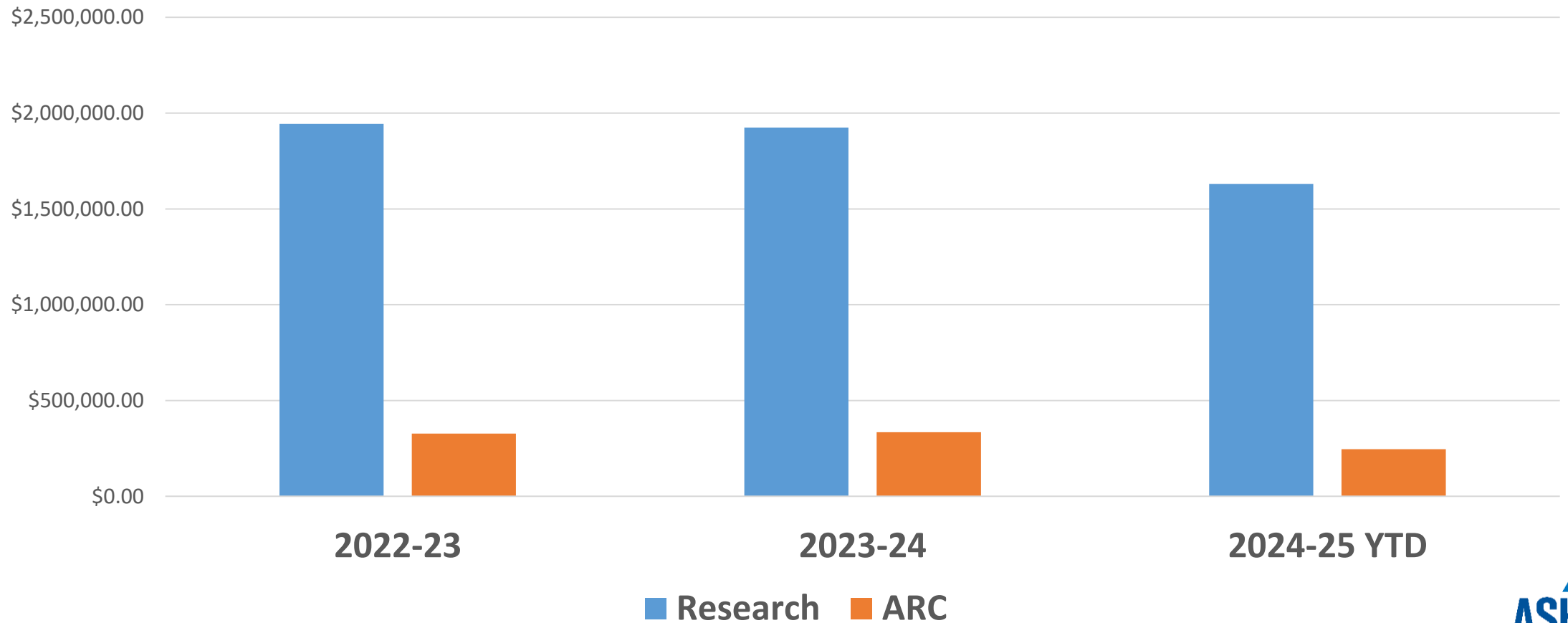
RP is focused on raising money from individuals and corporations to support Research, Education (ALI), the General Fund, YEA, and the Foundation (Endowed Research and Scholarships).



2024-25 RP Campaign YTD



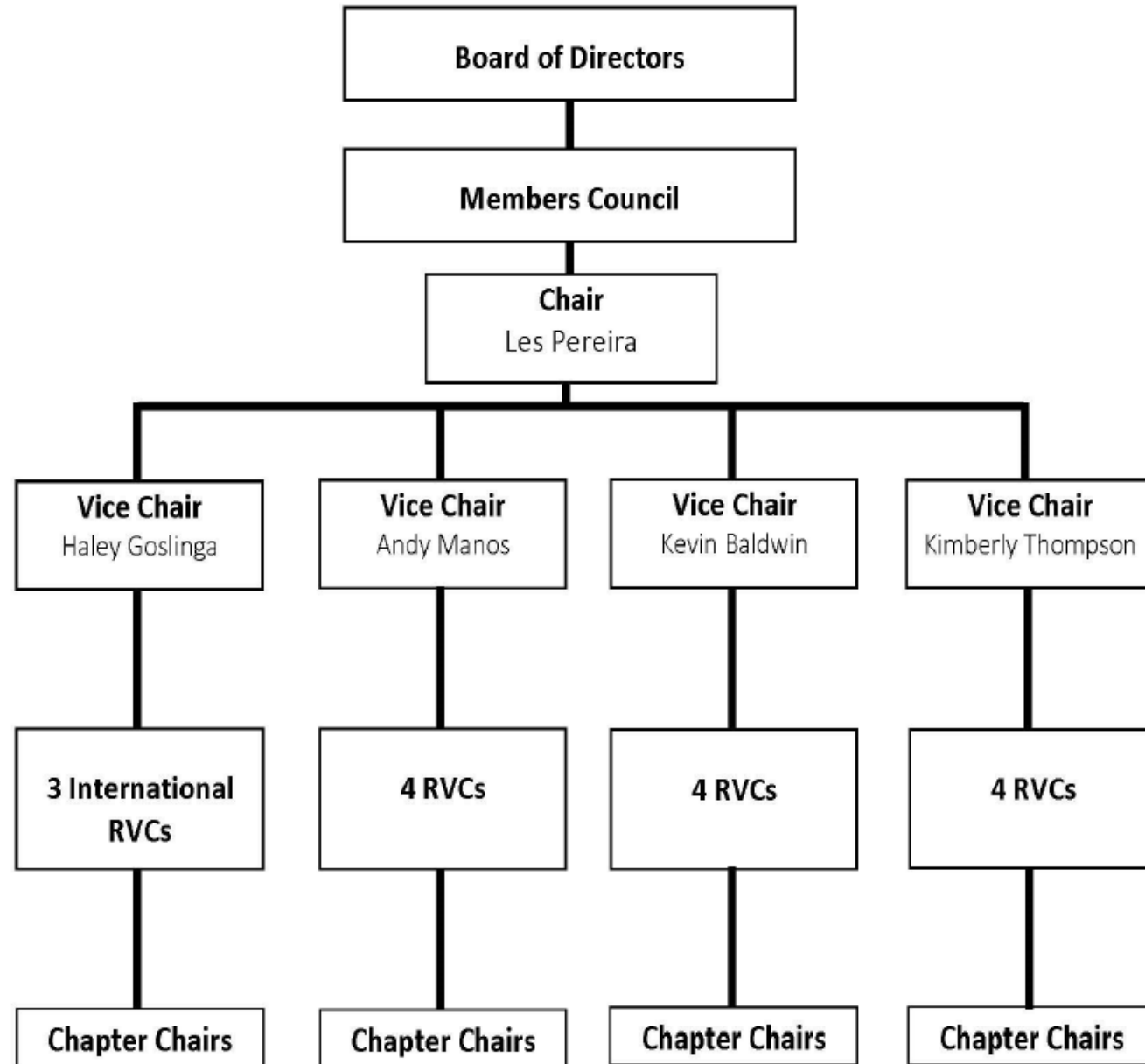
ASHRAE Research Canada



ExCom

Region

Chapter





ASHRAE RP Campaign

The ASHRAE RP Campaign raises critical funds to benefit Society and advance the mission of ASHRAE.



In 2024, the RP Campaign raised

\$2.7 million

for these important initiatives.



24 Active
Research
Projects



20 Grants-in-aid
for graduate
students



62 Chapter
and Society
Scholarships
(awarding \$255,000 annually)



Chapter
sustainability
projects

Find out more about RP: www.ashrae.org/rp



Questions?

Budget Update and RAC Activity

ASHRAE RESEARCH Budget SY 24-25 \$3.9 M,
RTAR submissions are down: 0 in March and 1 in May.

Please encourage your TCs. The funding is there!

Annual 2025

- 1 Research Topic Acceptance Requests (RTAR)
- 2 Work Statements
- 2 Conditionally Accepted
- 1 Returned
- 8 Tentative Research Projects under review

RTARs, PTARs and WSs

- We would like to collaborate on the development of some training for writing successful RTARs, PTARs, and WSs.
 - Holding a workshop immediately after Research Chair's meeting?
 - Partnering with YEA to hold a panel with experienced authors?
 - Please share your ideas with your RL of what would be most impactful.



Additional Reminders for Authors

- Show full TC approval vote on RTAR and WS forms, INCLUDING votes of listed co-sponsoring TCs. Low vote turnout and high abstention rates are an issue.
- Include MILESTONES in WS so PMS can track and report successful research progress.
- When resubmitting, include revised version with changes tracked and document that explains how RAC comments were addressed. This includes initial WSs submitted after an RTAR accepted with comments.
- Review budgeting guidance (hidden in this slide packet)
- **All submissions go through your Section Research Liaison**

Complete packages due:

March 15, May 15, August 15, December 15



Additional reminders for PES/PMS

- Recorded Training must be completed before serving on PES and PMS. There is also on-line Q&A in spring and fall. **Next session: September 9, 1pm EST.**
- Pre-schedule your 2 PES meetings so there is no delay once you receive bid packages. 2 RAC members must be invited to your PES and PMS meetings to ensure proper procedures are followed.

	Fall Solicitation	Spring Solicitation
Projects released for bid	Mid October	Mid March
Bids due from potential contractors	Mid December	Mid May
Contractors selected	Winter meeting	Summer meeting
Earliest possible start date for project	April 1	September 1





ASHRAE Research Portal Update

2025 Annual Meeting

What is it?

Online Tool for TC members, RAC & Staff to propose, manage & administer ASHRAE Research

- Submit new and revised RTARs and Work Statements
- Approvals (TC, RL & RAC) done through tool
- Collect research bids from bidders
- PES evaluations



What's it look like?



Start a New RTAR

Begin the process of creating a new RTAR. Add necessary information, add collaborator and cosponsors, and submit for voting.



Start a New Work Statement

Begin the process of creating a new Work Statement. Add necessary information, add collaborator and cosponsors, and submit for voting.



Upcoming Deadline

RTARs must be submitted by **August 15** to be considered at the next meeting. Submissions after that date will be considered for the December 15 deadline.

My RTARs			
<u>Drafts Not Submitted</u>	0	<u>Pending Approval</u>	0
<u>Returned for Review</u>	0	<u>Approval</u>	0

My Work Statements			
<u>Drafts Not Submitted</u>	0	<u>Pending Approval</u>	0
<u>Returned for Review</u>	0	<u>Approval</u>	0

My Committee RTARs			
<u>Drafts Not Submitted</u>	4	<u>Pending Approval</u>	0
<u>Returned for Review</u>	0	<u>Approval</u>	1

My Committee Work Statements			
<u>Drafts Not Submitted</u>	1	<u>Pending Approval</u>	0
<u>Returned for Review</u>	0	<u>Approval</u>	1

Enter RTARs / Work Statements in form

ASHRAE Research Portal

DashboardRTARsWork StatementsManage TRPsMy Bids

Co-Sponsors

Co-sponsoring TC / TG / MTG / SSPCs

List only co-sponsoring committees that have voted formal support

Co-sponsor(s)

T-TAC-TC02.04 × +

Work Statement Authors

Please list anticipated lead author and anyone expected to work on Work Statement

Expected Work Statement Author(s)

Michael Knipple × Yoon Ko × +

Potential Co-Funders

List co-funding organizations with contact information. Sponsoring committee and/or staff will follow up on co-funding opportunities with these organizations

Organization

Donna

Contact Person

Donna Daniel

Contact Info

Hellno

+ Add Another Co-funder

Additional Information

Describe in summary from the proposed research topic, including what is proposed, why this research is important (research needs), how it will be conducted, and why ASHRAE should fund it

Executive Summary

↺ ↻ H1 H2 H3 P ≡ ≡ ✎ 🗑 B ↺ I U ∞

Create and test an optimized method to develop abbreviated weather files for use in building performance simulation programs that capture the range of climate conditions using fewer representative data points to enable faster simulation times while minimizing the difference in loads compared to using the full annual weather file.

The ASHRAE logo, featuring the word "ASHRAE" in a bold, blue, sans-serif font, with a registered trademark symbol (®) to its upper right. The text is enclosed within a blue hexagonal border.

Classified as Business

Schedule

- Aim to use portal for ***some*** RTAR/WS submissions for next **August 15th deadline**
 - Seeking 1 TC per section with an RTAR/WS that will be ready for submission ahead of next deadline – ***please volunteer***
 - ***Let your RL know in breakout section if interested.***
- Aim to use portal for ***all*** RTAR/WS submissions for **December 15th deadline**
- Further development needed for use as bid and bid evaluation tool, but stay tuned!



Questions?

- MORTS – Steve Hammerling – shammerling@ashrae.org





ASHRAE Research Awards

Summary of Award Deadlines

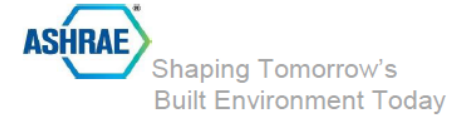
Award	Amount	Recipients	Submission Due
New Investigator Award	125 K	1	Dec. 1, 2025
Graduate Student Grant-in-Aid	5K +5K, 1.5K honorarium STBE	10-20	March 3, 2025
Homer Addams	3.5K	1	Dec. 15, 2025
Innovative Research Grant	50K +50K +25k	1	Dec. 3, 2025 Preproposal
Service to ASHRAE Research	Plaque	1*	Sept. 1, 2025

Service to ASHRAE Research

Recognizes individual for excellence in
volunteer service to Society Research
Nominated by TC/TG Chairs

Key dates:

- Submission deadline: September 1
- RAC reviews and selects awardee during the Fall
- Winner announced at winter meeting



APPENDIX I Page 2

6. PRESENTATION.

The RAC chair presents the “Service to ASHRAE Research Award” at the Research Subcommittee Chair’s Breakfast Meeting during the ASHRAE Annual Meeting.

7. CRITERIA FOR RECIPIENTS.

A. Work Statement (WS) Author	1 point per WS
B. Project Evaluation Subcommittee Service	
1. Member	1 point per RP
2. Chair	1 point per RP
C. Project Monitoring Subcommittee Service	
1. Member	2 points per RP
2. Chair	2 points per RP
D. Research Subcommittee Chair Service	1 point per year
E. Research Advisory Panel Service	
1. Member	1 point per tour
2. Chair	2 points per tour
F. Research Administration Committee Service	
1. Member	1 point per tour
2. Subcommittee Chair	2 points per tour
3. Chair	3 points per tour (Max. 6 pts./tour)

Note: A tour is a 4-year appointed term.

Graduate Student Grant-In-Aid

Purpose: To acknowledge graduate students researching ASHRAE-related technology and welcome them into the society.

Awards up to \$10,000 plus \$1500 for paper presentation to 10-20 full-time graduate student candidates for use in the following academic year.

Awardees are selected during the spring RAC meeting.

The evaluation criteria for candidates include academic performance, quality of the student's thesis/research plan and its relevance to ASHRAE, the advisors' recommendation, and an overall assessment of the likelihood for future involvement of the student within ASHRAE.

*If an awardee is unable to travel to ASHRAE due to visa restrictions, they can request an extension.

Summary

- New Research Liaisons: Section 2-Brian Fricke and Section 4- Davide Ziviani
- New Standing RAC Subcommittee formed: Research Advisory Panel to develop next ASHRAE Research Strategic Plan
- Help with Research Promotion and donate to ASHRAE Research
- Keep writing RTARs, PTARs and WSs: Due **March 15, May 15, Aug. 15, Dec. 15**
- Online submissions for RTARs/WS available this summer
- Ensure PES training and PMSC training is completed:
 - Online + Virtual Q&A September 9, 1 pm.
- Consider submitting Service to ASHRAE Research award nomination