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President's Message

Hi Everyone,

Firstly, a big thanks to Joe Dussault and Jesse Stallions who delivered a great presentation on decarbonization of existing buildings at Embassy Suites in October. I would also like to thank the efforts put in by chapter volunteers and members.

The Boston chapter will be hosting the long-awaited product show on the 2nd of November. It will be a great opportunity to network, learn about new products, see live demos, attend free seminars, and more! View list of exhibitors here. We encourage everyone interested in attending to please register online. We hope to make this the largest gathering of Mechanical Engineers and HVAC professionals in the Greater Boston area during 2022.

We are always looking for more members to be involved with the chapter and multiple committees are actively looking for volunteers. Please feel free to reach out to me if you are interested.

For more information visit the ASHRAE Boston website and follow us on LinkedIn. As always, we appreciate your feedback. Please email me at vineet.nair@mail.ashrae.org or any of our volunteers with questions or concerns.

Look forward to seeing everyone the evening of November 2nd.

Thank you all,
Vineet Nair
ASHRAE Boston Chapter President 2021-2022



President
Vineet Nair
CRB



YEA Update

Thank you to all the young members of ASHRAE who attended the October meeting. We hope to keep growing the chapter as a whole, but especially the group under 35 as we are the future of this chapter. The product show committee is going to be putting on a great event on 11/2 so I encourage all of you to come stop by. You will be able to network with fellow members and others that will be there as they work in the industry. You will also have a chance to put your hands and eyes on some samples of the new technology around the industry. To close out the 2022 calendar year, as it is quickly approaching, YEA and Membership promotion are hosting an event at Nightshift Brewery on 12/7 from 5-8pm. We will be providing food for all to enjoy while sipping on Nightshift's variety of seltzer, ciders and beer. We encourage the members to come with a non-member to this event and get them signed up with the Boston ASHRAE chapter. We will have room for 50 guests throughout the night.



Please contact Matt Hallock at matt@trumbullcampbell.com or Mary Kandaras at Mary.Kandaras@BuroHappold.com if you have any questions or suggestions about this upcoming year.

Welcome New ASHRAE Boston Members

We welcome those that joined our chapter this summer!

- Benjamin Pignatelli
- Trevor Gusmini
- Heidi Jandris
- Benjamin Austin
- Mollie OKeefe
- Kyle Lipkvich
- Quinn Kelly
- Pranaav Saravanan
- Norman Walker
- Murphy Rutledge
- Richard Blume
- Jethro Joseph
- Evan Birdsey
- Andrew Coady
- Maxwell McHugh
- Alexander Hall

December Meeting

Tech Session

Discussion of Heat Trace systems for Plumbing, Mechanical, Fire Protection and Roof/gutter systems. Presentation will cover Freeze Protection, Grease Waste Maintenance, Hot Water Temperature maintenance, and Snow mitigation. In depth discussion on how to select the proper watts per foot and how pipe diameter, power, insulation thickness, and insulation type all have an effect on which wattage cable is to be selected as well as how many circuits are needed for a project. We will discuss the push for electrification and how using Hot Water Maintenance heat trace lessens time to tap as well as addresses issues engineers have balancing different pressure zones. Using heat trace will help address the recirculation requirements engineers are challenged with to come as close to the fixture as possible. Lastly, we will learn how using Hot Water Maintenance heat trace can contribute to LEED.

Presenter

Mark has many years of experience in the Plumbing, and HVAC industry. Much of this experience comes from on the job training and solving problems with contractors in the field. He has worked with several of the finest in the area of heat tracing for his experience and knowledge in the industry. He works with Plumbing Engineers, HVAC Engineers Contractors, and Distributors helping to assist with product and system development for Domestic and Non Domestic Hot Water systems. Emerson Swan’s motto is to be there for customers from “concept to commissioning, and beyond”. He also is a Grade III Industrial Waste Water licensed Engineer within the state of Massachusetts.



Mark Orgettas
Heat Trace Product Manager
Emerson Swan Co. Inc.

Main Presentation

Designing a plate and frame heat exchanger is not as straightforward as it may seem. We all understand the principles of heat transfer, however fluid mechanics play a very large role in the performance and uptime of a heat exchanger. An improperly designed heat exchanger will cause other equipment to work harder and increase the energy consumption in the HVAC system - we must learn to look beyond the initial capital investment and consider the total cost of ownership. AHRI has helped to standardize manufacturers’ designs but there are parameters that engineers must still consider and verify. In today’s presentation we will discuss:

- Basic heat transfer theory
- The effects of temperature approach on the size and cost of a heat exchanger
- Hydraulic design and it’s effect on performance and fouling
- AHRI – what it is and when it’s applicable

Presenter

Tracey Putnam holds a degree in Chemical Engineering from Penn State University. She began her career as a process engineer at a toll manufacturer where she was responsible for new product start-ups. This provided initial exposure into what is involved in procuring equipment, operator training and commissioning a new process.



Tracey Putnam, BS ChE
Commercial Markets —
Sales Manager
Alfa Laval

She spent the first 9 years of her career at Alfa Laval as an applications engineer focusing on technology conversion and energy efficiency within the Petrochemical and Refining markets. In 2010, Tracey transitioned to the Commercial side of the business and has been concentrated on Comfort cooling ever since. Her mission is to educate the engineering community on how to properly specify plate heat exchangers to optimize energy usage, reduce maintenance requirements and total cost of ownership.



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History Special Feature Eric Edman

Some of you have really gotten into reading these wacky historical stories that I come up with and have a good laugh. Well, it really pleases me to know that you read these and get a chuckle -so in my efforts to continue to keep you from sleeping at your desk, I found one of those really great things in life to write about. No, No, No-not cold beer... about the opposite- a warm car seat on a cold day.

To put this in perspective, I am now driving my 28th vehicle. Yes, I suffer from engineer's disease and remember all the \$4i#box cars I have owned all my life until I actually finally bought a car with electric heated seats. Oh, the joy. Truly heaven sent. Well fast forward from 1982 to today and I have a Honda Ridgeline with remote starter and seat warmer. This is the definition of luxury if you asked me. I know, I know, Edman you are such a simpleton.

Today we are going to focus on the invention of this thing we call a seat heater. I could dive into details on a Sherman Tank seat heater some day as I have learned our friends at Preferred Utilities contributed to the war effort by heating real Sherman tank seats and I'm sure some GI's really enjoyed that in the winters overseas. That can be a story for another day. Today we can talk about cars (That is pronounced cahs for those of you outside Boston)

Some say the cold winter weather in the Eastern United States is a symptom of climate change. Regardless of where you stand on the issue, one thing is certain: come winter, automobile seat warmers are as welcome in your car as a steaming cup of hot chocolate and a snuggly blanket while sitting next to a crackling fire. (I still like beer and that blanket and fire). Thankfully, this automotive indulgence is now commonplace. Still, you might guess how it came to become standard equipment on cars.

Swedish automaker Saab gets the credit for making a heated driver's seat standard equipment on the Saab 99, the smaller Saab 96 sedan, and the Saab 95 station wagon in 1972. This inevitably led to the first joke about the driver having a hot ass. While most Saab buyers were probably pleased that the '72 Saab was the first car certified by the federal government to withstand 5-mph crashes, the thought of shoving a heating pad in the seat was clearly a bigger attraction. Unlike today's systems, this one activated automatically when the ignition was turned on and the cabin's temperature was below 58 degrees. It shut off once the seat temperature reached 82 degrees. Saab claimed that this electric chair would not shock you and was not affected by dampness that came in contact with it. They did that with regulating cables like we use in heat traces systems.

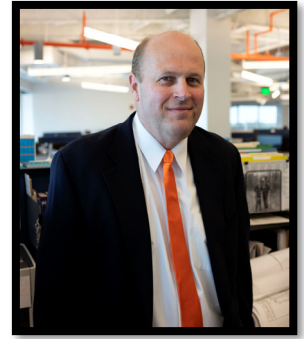
But before you start high-fiving the Swedes for their innovation, thank Cadillac instead. While Saab was the first to offer heated seats as standard equipment, Cadillac was the first to offer this in the first place. Yes sir, American ingenuity was at it before those Swedes in 1972. All the credit goes to Robert L. Ballard, a General Motors employee who filed an automobile seat heater patent on April 30, 1951. In a burst of US governmental efficiency that would surprise exactly no one, the patent was finally granted on Jan. 4, 1955, building on previous patents, including one granted to Westinghouse Electric on Feb. 27, 1923 for the "electrically heated warming pad."

Still, in a valiant effort to show that the federal government could be more efficient than private industry, it took GM over ten years to introduce heated seats in the 1966 Cadillac Fleetwood. By then it was far from the headline attraction. All the attention went to its exclusive variable ratio steering, the first on an American production car, followed by a new Fleetwood Brougham model and automatic climate control- yes automatic folks. The fourth page of the five-page press release gets around to boasting about the new hot seats.

All Cadillac Fleetwood's could have the new option on the front seats except for the Fleetwood 75, which given its chauffeur-driven nature, had them in the rear seats instead. Today's chauffeur driven cars have heated drivers' seats. The system used four fiberglass pads "interwoven with a grid of electric conductive carbon yarn" built into the seat cushions and seat backs, and provided a temperature range from 85 to 105 degrees. The option was triggered automatically when the ignition was turned on and the temperature was below 50 degrees. It could also be activated manually. It shut off once the heater fan came on or when manually turned off by the driver via a switch on the instrument panel, just to the left of the steering column. On Fleetwood 75 models, the switch was on the right-side rear quarter panel.

Cadillac assured buyers in its accessory guide that any damaged strands didn't impair the performance of the system. The \$78.95 option (that's \$650 today) was available regardless if the seats were bench or buckets and covered in cloth or leather. It was offered to 1968, after which it was dropped, probably due to a low take rate. And it's no wonder. In Cadillac's 16-page 1966 sales brochure, this innovation is buried on page 12, two-thirds of the way down in a sea of text, without a photo. Nevertheless, this option, once reserved for the upper one percent, is now available on a Honda Fit and Toyota Prius. For a few thousand bucks, you could own a 1966 Cadillac and have a piece of history to boast about with the townsfolk on a cold winter night. Think about it. Good luck finding one that will heat your backsides. The Prius will pass you at the pumps.

We certainly look forward to seeing you again. I liked you virtually but am much happier to see you in person,
Eric Edman



Eric Edman
Historian



Fellow and Distinguished 50-Year Member Award

Anand K. Seth, P.E.



The Boston ASRAE Chapter has approved funds up to compensate travel costs for Anand Seth's niece to receive this award. Anand Seth posthumously received the ASHRAE Fellow award, and these funds will be used to support his niece's airfare and local transportation costs associated with travel to ASHRAE's Winter Conference.

Anand passed at age 76; Life Member ASHRAE; North Reading, Mass.; He joined ASHRAE in 1971. He received the Distinguished Service Award in 2016 and the Distinguished 50-Year Member Award in 2021. He has served in the following positions:

- Member, Section 9 Head, Technical Activities Committee
- Member, IAQ 2004 Conference Ad Hoc Steering Committee
- Chair, TC 9.8, Large Building Air-Conditioning Applications
- Project Committee Voting Member, Producer, SPC 227, Passive Building Design Standard
- Project Subcommittee Voting Member, Designer-Natural Ventilation Subcommittee; Project Committee Voting Member-HVAC Subcommittee, SSPC 170, Ventilation of Health Care Facilities
- Designer, SSPC 189.3, Design, Construction and Operation of Sustainable High-Performance Health Care Facilities
- Project Committee Voting Member, GPC 4-1993R(X), Preparation of Operating and Maintenance Documentation for Building Systems
- Member, TC 3.6, Water Treatment
- Member, TC 7.3, Operation, Maintenance and Cost Management
- TAC Section Head, TC 9.2, Industrial Air Conditioning and Ventilation
- TAC Section Head, TC 9.3, Transportation Air Conditioning
- TAC Section Head, TC 9.4, Justice Facilities- TAC Section Head, TC 9.5, Residential and Small Business Applications
- TAC Section Head, TC 9.6, Healthcare Facilities
- TAC Section Head, TC 9.7, Educational Facilities
- TAC Section Head, Chairman, TC 9.8, Large Building Air-Conditioning Applications
- TAC Section Head, TC 9.9, Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment
- TAC Section Head, TC 9.10, Laboratory Systems
- TAC Section Head, TC 9.11, Clean Spaces
- TAC Section Head, TC 9.12, Tall Buildings

Anand was truly a gentleman and filled his life serving mankind. We owe a lot to him.

Rest in Peace Anand.

Presidential Award of Excellence							ASHRAE Boston Chapter		
Boston Chapter - 2022-2023									
Chapter Members	Membership Promotion Points (1600)	Student Activities Points (800)	Research Promotion Points (1050)	History Points (300)	Chapter Operations Points (1200)	Chapter Technology Transfer Points (1050)	Government Affairs Points (1000)	Electronic Communications Points (700)	YEA Points (900)
<u>1002</u>	<u>3715</u>	<u>440</u>	<u>120</u>	<u>245</u>	<u>140</u>	<u>200</u>	-	-	<u>1075</u>

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EVENTS CALENDAR

Date	Event	Location	Event Information
September 13, 2022	September Meeting	Doubletree Boston-Cambridge	Topic: COMPRESSOR TECHNOLOGY Presenter: Mark W. Fly, PE
October 11, 2022	October Meeting	Embassy Suites Waltham	Topic: DECARBONIZATION OF EXISTING BUILDINGS Presenter: Joe Dussault & Jesse Stallions
November 2, 2022	Product Show	Marriott Quincy	Details on Page 2
December 13, 2022	December Meeting	TBD	Topic: HEAT EXCHANGERS Presenter: Tracey Putnam
January 10, 2023	January Meeting	Embassy Suites Waltham	Topic: LIQUID SUBCOOLING Presenter: Peter Fung
February 7, 2023	February Meeting	TBD	Topic: DEI & ASHRAE: DOES IT REALLY MATTER? Presenter: Devin Abellon, P.E.
February 21, 2023	YEA/DiA Joint Social	TBD	Details to follow.
March 14, 2023	March Meeting	TBD	Topic: GEOTHERMAL SYSTEMS Presenter: Andrew Kozak, P.E.
March 2023	YEA Event	TBD	Details to follow.
April 11, 2023	April Meeting	TBD	Topic: PANEL DISCUSSION Presenter: TBD
April 2023	DiA Event	TBD	Details to follow.
May 9, 2023	May Meeting	TBD	Topic: Past Presidents & History Night Presenter: Eric Edman
May 2023	ASHRAE Golf Outing	Granite Links	Details to follow.
June 2023	YEA Event	TBD	Details to follow.

*The calendar is subject to changes, please see the [ASHRAE Boston Chapter website](#) for the most up to date information!

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Boston Monthly	ASHRAE Society— Complete List
Boston Chapter	YEA Events
DiA Events	Other Societies

