



January 2022

Alaska Chapter Newsletter Hot Gas Bypass

ASHRAE Monthly Meeting Information

Presentation:

ASHREA Standard 90.2.2018 and the Pathway to High-Performance Residential Buildings

By: Dr. Theresa Weston

Date:
Tuesday, February 15, 2022

Time:
12:00 pm

Cost:
Free

Location:
GoTo Meeting Online

<https://www.gotomeet.me/ashraek>

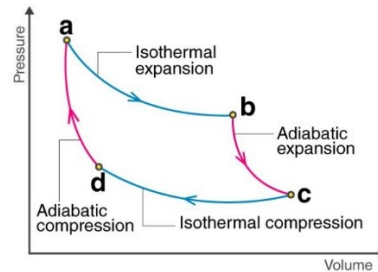
Phone: 1-872-240-3412
Access Code: 264-465-621

President's Message:

Hello ASHRAE Alaska Members,

Happy February!

Equation of the month is, Carnot's Work – Heat relation, $W=Hu(T1-T2)$. Where W is the mechanical work produced in the cycle, H is the amount of heat passing through the engine, and $T1$ and $T2$ are the absolute temperatures of the hot and cold reservoirs. March 1851. (Reference: Inventing Temperature Measurement and Scientific Progress By Hasok Chang). Carnot decided that efficiency should be reckoned in a cycle of operations. Carnot's metaphor for understanding the heat engine was the Water Wheel, which produces mechanical work by harnessing the water falling from a higher place to a lower place.



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Moving on to meeting on **Tuesday February 15** at Noon via go to meeting, Our speaker for February is ASHRAE Distinguished Lecturer Dr. Theresa Weston speaking on ASHRAE 90.2-2018 standard. The presentation reviews the structure, requirements and potential applications of ANSI/ASHRAE/IES 90.2-2018. The standards development and future path will be discussed. Dr. Weston is a building science research professional specializing in durability and energy efficiency. We will also be sending the board elections email in the coming weeks. If you would like to volunteer, please let any of us know. Engineering Week 2022 is coming up in a week February 20-26. Volunteers are needed in different capacities, so please consider giving some of your time to support E-Week. Similar to last year you can do a virtual classroom presentation or help with the in-person student competitions planning to be held at Loussac Library. Companies are also encouraged to create a display about projects, services, and other efforts to help educate the public about the important contributions of engineers to Alaskan Communities. We are also planning on doing the RP shootout in April. Please contact us for more information. We will keep you posted on information as we receive.

Thanks for attending the February YEA Bootcamp series with our speaker Scott Bohne, AIA. Stay tuned for Our next speaker in March. Please encourage engineers in your firm to attend the YEA Bootcamp series.

Thanks to all the volunteers, members, and pioneers!

Sincerely,

Sam Ratnasigamani,
President 2021-2022
Alaska Chapter ASHRAE



February Meeting:

Meeting:

Presentation:

ASHRAE Standard 90.2-2018 and the Pathway to High-Performance Residential Buildings

Date:

Tuesday,
February 15, 2022

Time:

12:00–1:30pm

Location:

<https://www.gotomeet.me/ashraeak>

Dial in: 1-872-240-3412

Access Code: 264-465-621

Cost: Free

ASHRAE Standard 90.2-2018 and the Pathway to High-Performance Residential Buildings

This month we are pleased to have ASHRAE Distinguished Lecture Dr. Theresa Weston present on ASHRAE 90.2.

Summary:

ASHRAE holds a unique position through its standards to define and shape residential building performance. ANSI/ASHRAE/IES 90.2-2018 (replacing the Standard 90.2-2007) is a leadership standard that presents a new approach to deliver residential building energy performance and which results in buildings with higher energy efficiency than those built to the IECC-R. Consequently, ASHRAE 90.2 is an option as a turnkey residential stretch code. The path to creating ANSI/ASHRAE/IES 90.2-2018 as a leadership standard was initiated by a Standards Advisory Panel recommendation to the ASHRAE Technology Council that set goals for a leadership residential energy efficiency standard. Key to meeting the leadership goal is the delivery of an accurate, flexible, performance-based tool to enable user creativity in meeting performance objectives. Additionally, ANSI/ASHRAE/IES 90.2-2018 provides leadership by incorporating detailed verification requirements, thus ensuring that the intended energy performance results are achieved. This presentation reviews the structure, requirements and potential applications of ANSI/ASHRAE/IES 90.2-2018. The standard's development and future path will be discussed.



Speaker's Bio

Dr. Theresa Weston is a building science research professional specializing in the durability and energy efficiency of buildings.

Theresa started The Holt Weston Consultancy in November 2020 to foster innovation of building materials, and products to improve the resilience and sustainability of buildings. Prior to starting the Holt Weston Consultancy, Dr Weston was a DuPont Laureate with the Dupont Safety and Construction business, having worked for DuPont for 35 years. DuPont Laureate is the highest technical professional level in the DuPont company.

Theresa received her Bachelor of Science degree in Chemical Engineering from the Massachusetts Institute of Technology, and Masters and PhD degrees in Chemical Engineering, both from the California Institute of Technology.

While at DuPont, Theresa demonstrated a track record of anticipating the need for new technology through the strategic analysis of technology trends and driving the deployment of innovation in the marketplace. She is an inventor on four patents, two of which introduced new product categories into the construction market: 1) Development of industry's first "drainage wrap", creating a new waterresistive barrier category [US6355333B1 "Construction Membrane" (2002)], and (2) Introduced the category of "formable window flashing" [US7351296B2 "Stretchable Flashing Materials and Processes for Making" (2008)].

Dr. Weston is a 25-year member of ASHRAE, having served on the Technical Activities Committee, the Standards Committee and as the Chair of the Residential Buildings Committee, as well as serving on a number of Technical and Standards Project Committees. As chair of ASHRAE 90.2 ANSI/ASHRAE/IES Standard 90.2-2018, Energy-Efficient Design of Low-Rise Residential Buildings, Theresa led the committee to transform the standard to a leadership standard. She was also a member of the project committee which produced the initial publication of ASHRAE Standard 160 Criteria for Moisture-Control Design Analysis in Buildings.

Theresa is active with industry standard and code development activities outside of ASHRAE, including with ICC, and ASTM. She chairs ASTM E06.41 the Performance of Buildings Subcommittee on Air Leakage and Ventilation. She currently serves on the ASTM Committee on Publications and as a member of the ICC Residential Code Interpretation Committee.

Dr. Weston is a prolific author and industry speaker. Recent activities include chairing an ASTM Symposium and resulting special technical publication on Whole Building Air Leakage: Testing and Building Performance Impacts (STP1615) as well as presentations at ASHRAE, EEBA and RESNET Conferences. She is the Vice-Chair of the ASHRAE sponsored Buildings Conference Series

ASHRAE YEA

Ice Skating



Thursday, February 17

6:00p.m. - 8:00p.m.

Westchester Lagoon, Anchorage

Get outside and have a good time!

We will have a fire and s'mores. Bring your own cold-weather beverages such as hot cocoa if you want.

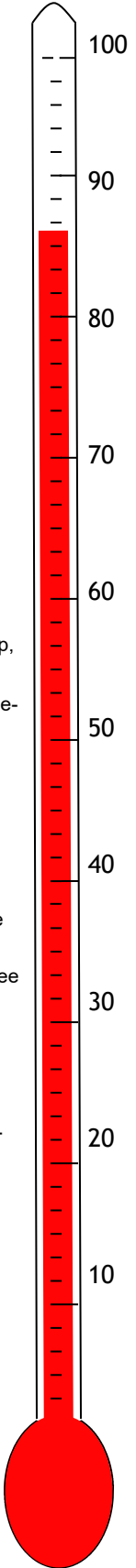
Let your YEA Chair know if you can help set up or provide supplies. Families welcome.

Remember to bring a head lamp, hand/foot warmers, and warm clothing.

Research Promotion:

2021-2022 Research Investors, ASHRAE Alaska Chapter

<u>Organizations</u>	<u>Individuals</u>
<p><u>ASHRAE Associate</u> (\$2,500 - \$4,999) Stinebaugh & Company</p> <p><u>Major Donor - Silver</u> (\$1,000 - \$2,499)</p> <p><u>Major Donor - Bronze</u> (\$500 - \$999) JP Sheldon Trane Co. UA Local 367</p> <p><u>Chapter Recognized Donor</u> (\$150 - \$499) Aaron Plumbing & Heating Co.</p>	<p><u>Major Donor</u> (\$250 - \$2,499) Jan Van Den Top</p> <p><u>Honor Roll Donor</u> (\$150 - \$249) Mack W. Bergstedt Nathan Zeigler Samuel Ratnasigamani Phil Hayes Nathan Lang James Boggs Cheyenne A. Alabanzas Tracy L. McKeon Douglas B. LeCren</p>



Fellow ASHRAE Members,

Through your generosity our chapter has currently raised more than \$8,000 for ASHRAE RP so far this year! Keep it up, your generous contributions will pay back in countless ways to our local and broader industry as a whole!

It is through the funds generated for RP that all ASHRAE codes, standards and design guides are researched, written and implemented into the built environment where we live and work. Thank you for your generous support, it is only through your donations and involvement that we can continue to advance the knowledge, quality and standards for our built environment.

I have often heard the question, "How are my RP donations used?" and "What benefit do RP donations have for Alaska?"

- ASHRAE RP funds are pooled at the society level, then with the entire society's resource potential the funds are redistributed in order to achieve the highest potential output.
- It is through the funds generated for RP that all ASHRAE codes and standards are researched, written and implemented into the built environment that we live in.
- RP funds return to Alaska in various forms such as university research grants, scholarships, and technical committee funding.

If you are interested in donating towards the future of HVAC&R industry standards and practices please follow one of these three donation options:

- Go to <http://www.ashrae.org/RP> and scroll down the page to select the "ONLINE CONTRIBUTION FORM" link.
- You can mail a check made out to "ASHRAE Research" please put "Alaska Chapter" in the memo line and mail to: ASHRAE RP; 180 Technology Parkway; Peachtree Corners, GA 30092.
- You can also donate when you renew your membership on line. After you have made your selections for renewal the next page is for donations to ASHRAE funded items. About 3/4 of the way down the page you will see Research Promotion. Click "Add to Cart".

If you have already made a donation, your name should appear at the top of this page, if not, please let me know and I will update the page for next month. Please feel free to contact me with any questions about ASHRAE Research Promotion; the ASHRAE Foundation; or the ASHRAE Learning Center.

Thank you very much for all of your support and dedication to your local ASHRAE Chapter.

Sincerely,
Cheyenne A. Alabanzas
Alaska Chapter Research Promotion Chair, calabanzas@rsa-ak.com



Chapter Sponsors:

2021-2022 ASHRAE Alaska Chapter Sponsors

Gold Chapter Sponsor: _____ (\$5,000)

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Chapter Meeting Sponsor: _____ (\$1,000)

Chapter Web Sponsor: _____ (\$350)



In the past couple of years, the Alaska Chapter introduced chapter sponsorship levels to help recognize those who have steadfastly supported the Alaska Chapter over the years. Included with these sponsorship levels are various 'chapter benefits' as a way of thanking and honoring the generosity of our loyal supporters.

Portions of the sponsorships are utilized to help fund the Alaska Chapter operations as well as donated to ASHRAE Research Promotion in the sponsor's name.

Below is a list of the sponsorship levels along with the 'chapter benefits' for each level of donation.

Corporate Donations:

Corporate donations to the Alaska ASHRAE Chapter are recognized in five tiers:

• **Gold Sponsorship: _____ \$5,000 & Above**

• (1) Foursome team for annual golf tournament • (1) Hole sponsorship for golf tournament • (1) Seat for every chapter meeting -OR- (1) Range Sponsorship during Annual RP Shoot out • Announcement of your sponsorship during all meeting introductions and events. • Logo on website • Business card advertisement in newsletter (September – May) • Job postings on the ASHRAE Alaska website and on the newsletter • RP Donor Level - ASHRAE Associate: (Gold Commemorative Coin & Plaque, Listed in the annual Investor Honor Roll)

• **Forget-Me-Not Chapter Sponsorship: \$2,500 - \$4,999**

• (1) Range Sponsorship during Annual RP Shoot out • (1) Hole Sponsorship during Annual Golf Tournament • Announcement of your sponsorship during all meeting introductions and events. • Logo on website • Business card advertisement in newsletter (September – May) • Job postings on the ASHRAE Alaska website and up to (2) on the newsletter • RP Donor Level - Major Donor – Silver: (Silver Commemorative Coin & Plaque, Listed in the annual Investor Honor Roll)

• **Chapter Meeting Sponsor: _____ \$1,000**

• Sponsor's table available with display and literature prior to meeting (A website link and a hole or range sponsorship will be made available as an alternative for a virtual meeting sponsorship) • Logo on welcome message during monthly chapter meetings • Announcement of your sponsorship during the meeting introduction • Logo on website • Business card advertisement in newsletter (September – May) • RP Donor Level - Major Donor – Bronze: (Bronze Commemorative Coin & Plaque, Listed in the annual Investor Honor Roll)

• **Web Sponsorship Package: _____ \$350**

• Logo on website • Business card advertisement in newsletter (September – May) • RP Donor Level – Honor Roll (Individuals only): (Receive blue desktop coin holder, Listed in the annual Investor Honor Roll)

• **Newsletter Sponsorship: _____ \$150**

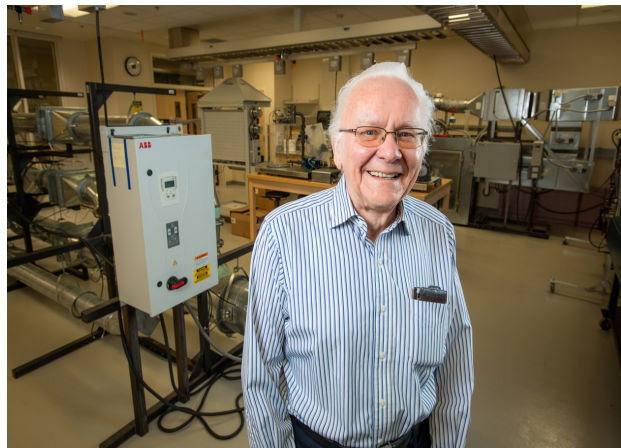
• Business card advertisement in newsletter (September – May)

Just warming up: Engineering alum reinvests in UAA's future

by *Joe Selmont* | February 9, 2022

At a small, masked ceremony on the third floor of the Engineering and Industry Building in December 2021, UAA's chancellor, the College of Engineering's (CoEng) dean and others gathered to rename the Heating, Ventilation and Air Conditioning (HVAC) Lab in honor of Jan van den Top, a 1973 Master of Science in engineering alumnus, whose generous endowment will enable UAA's mechanical engineering program to remain on the cutting edge of teaching and research. In fact, this endowment is the latest in a long line of investments he has made in UAA, and is an example of a philosophy that has been one of van den Top's guiding principles.

Originally from the Netherlands, van den Top joined the Netherlands Volunteer Organization after finishing his undergraduate degree. The organization brought him to Kenya, where he worked with local coffee farming cooperatives to upgrade infrastructure, improve processes and increase output. This opportunity allowed van den Top to see more of the world and to do work that he found meaningful — work that would maybe do some good. However, he is now unsure whether this work achieved its intended outcomes.



“In the long run, the farmers didn't gain as much as they hoped for, I think,” he said. “It was a great experience for myself, of course. But it also helped define my philosophy for development work moving forward. It's important to provide people the tools they need to be successful – the tools they need to sustain success into the future. If you can't do that, then are you really helping them?”

While in Kenya, van den Top also met his future wife, Jeri Markee, who was serving as headmistress of the Kabare Secondary School in a nearby community as part of a deployment for the U.S. Peace Corps. Van den Top said, “That's what happens when the government sends these young people outside the country. They fall in love.” With a smile, he added, “Really, I think Jeri liked me because I had a Volkswagen, and she needed rides.”

Just warming up: Continued...

After their marriage, the young couple decided to take turns living in each other's homelands. First, in 1969 they moved to Alaska, where Jeri's parents lived. During the next few years, van den Top earned his master's degree from UAA while also working for a local engineering firm. "At the time, all of my classes were in West High School, and the professors actually flew down from Fairbanks," he said. "It's funny to think about now. The university has grown so much."

In 1973 they briefly moved to Holland, but they jumped at the opportunity to go to South America when van den Top was offered a two-year job in Suriname, which was then called Dutch Guiana. When that adventure came to an end, they chose to move back to Alaska, determining that it was the right place for them. Shortly after settling down in Anchorage, van den Top set about building a business.

"I saw an opening," van den Top said. "The mechanical contracting business was changing. In other parts of the world, the design-build process was becoming a major way of doing projects. But nobody was doing it in Alaska."

Prior to this time, the design and construction of a project were generally carried out by two separate businesses. This process is known as design-bid-build, which created huge inefficiencies. Under the design-build process, the same business handled the entire project. Van den Top approached several contractors around Anchorage to convince them that this new model was the way of the future. Ultimately, he found a company that was interested in his vision: Superior Plumbing and Heating Inc.

"The catch was that the owners were ready to retire," van den Top said. "They were excited about design-build, but they wanted me to buy the company from them."

And so he did.

But of course, it wasn't as simple as that. Van den Top was still a young man with limited capital. Thankfully, the previous owners believed in the design-build concept, and so they worked out a deal that allowed van den Top to buy the company over a number of years. It was a gamble, but it ultimately paid off.



Just warming up: Continued...

Van den Top was right that design-build would be more efficient and profitable. Over the next 40 years, he grew The Superior Group Inc. (as the company is now known) into one of the most successful mechanical contracting firms in Alaska. His company has been the mechanical contractor for many buildings that are household names in Alaska: the Anchorage Museum, the Alyeska Hotel, the Alaska Sealife Center and Mat-Su Regional Hospital, among many others.

These days, van den Top is retired. He worked with the employees of The Superior Group to enable them to purchase the business, and the company is now fully employee-owned.

“I really like this set up,” van den Top said. “It fits in nicely with my philosophy. Employee ownership gives a company and individual workers many tools for success. It doesn’t automatically make them successful, of course. But it does provide some good tools.”

Since retiring, van den Top has kept busy. He’s gone back to Africa several times to work with a nonprofit in Tanzania doing community development work. And this time, he’s very focused on ensuring that the communities are set up for long-term success. He has also remained involved in the CoEng. In addition to the endowment of the Jan van den Top HVAC Lab, The Superior Group has also endowed a scholarship for engineering students in van den Top’s name.

“When I first came to Alaska, the UAA community was such a great help for me. It was really influential for my career,” van den Top said. “Now, I want to do my part to provide the tools that UAA needs to be successful.”

This article was first published on the University of Anchorage Alaska website.

Photos courtesy of James Evans and Ted Kincaid / UAA.

The original article can be found at the link below.

<https://www.uaa.alaska.edu/news/archive/2022/02/just-warming-up-engineering-alum-reinvests-uaa.cshtml>



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