

NOVEMBER 2024



## Main Program: Variable Frequency Drives



**Presenter:**  
Burke Gruber

Burke Gruber is the Sales Engineer for Central/Eastern Florida, responsible for ABB-Baldor industrial electric motors. He has worked for ABB for over 8 years and holds a Bachelors of Science in Industrial Engineering from Ohio University.

### MEETING DETAILS

**Date**

Wednesday, November 11th, 2024

**Location**

Double Tree at Gulf Coast Town Center

**Start Times**

Networking: 11:00 a.m. to 11:30 a.m.

Dinner/Main program: 11:30 a.m. to 1:00 p.m.

**Cost**

\$35.00 per attendee – Reservations are a must

**No cost for college students with a valid student I.D.**

Pre-Pay via [www.paypal.com](http://www.paypal.com) to

[swfl.ashrae@gmail.com](mailto:swfl.ashrae@gmail.com)

RSVP by **November 10th** via the following link:

[Click here to RSVP](#)

## A MESSAGE FROM YOUR SWFL ASHRAE PRESIDENT: CASEY A. HAZEN

Greetings SWFL Chapter,

As we settle into the cooler months, it's a great time to reflect on the warmth and camaraderie within our ASHRAE community. We're excited to bring you another informative and engaging issue, packed with industry insights, technical advancements, and upcoming events.

We will be continuing our regularly scheduled monthly meetings this month with our next meeting coming up this Wednesday, November 13th. Our very own Burke Gruber will be presenting on the newest trends related to Variable Frequency Drives. I hope to see all of you there at the Double Tree by Hilton in Belltower Shops at 11:30AM. We're still accepting RSVP's so please reach out to our CTTC Chair, Jeff Brooks, if you're at all interested in attending. As always, we encourage you to bring a guest!

Lastly, I'd like to take time again to say, we couldn't do it without our amazing sponsors! A huge thank you to our longtime supporters and a warm welcome to our newest partners. Your generous contributions help us keep the lights on, the AC running, and the coffee flowing. We appreciate your support, especially during these wild times. It's like Taylor Swift said, "You're the calm in the chaos."

As always, please keep an eye out for our upcoming meeting event flyers and chapter announcements!

Cheers,

Casey Allen Hazen, BSME  
SWFL Chapter President 2024-2025

# Carbon Dioxide for Industrial Refrigeration

*Refrigeration Chair - Kevin Jewell*

Carbon dioxide (CO<sub>2</sub>) is an old refrigerant, first patented in the United Kingdom in 1850 by Alexander Twining, where it was subsequently used in air-conditioning and marine applications. With the development of the CFC, HCFC, and HFC synthetic refrigerants beginning around 1930, CO<sub>2</sub> decreased in popularity, all but disappearing by 1960. Over the next two decades or so, it was experimentally determined that CFC and HCFC refrigerants were depleting the earth's upper atmospheric ozone layer at a rate that would likely cause its disappearance.

CO<sub>2</sub> is one of the five natural refrigerants and over the past 20 years has gained popularity, particularly with low-temperature refrigeration for industrial systems. When CO<sub>2</sub> is used in a cascade or a secondary coolant refrigeration system, the ammonia system charge is reduced by about 80% and confined to the machinery room where the consequences of a leak or spill are decreased. However, CO<sub>2</sub> is not without draw-backs, two of which are high system working pressure and limited useful operating temperature range of -53.9°C (- 65°F) to 26.7°C (80°F). Manufacturers are adding high-pressure components to their offerings, supporting the application of refrigerant CO<sub>2</sub>. With continued good engineering design and industry support, CO<sub>2</sub> will increase its popularity as an industrial system refrigerant.

Authors: Donald L. Fenton, Ph.D., P.E.

Citation: ASHRAE, Vol. 58, no. 8, August 2016

Pages: 36-47 (12 pages)

Publish Date: August 2016

Publisher: ASHRAE

## MONTHLY MEETINGS

- November 13th: Lunch
- December: Refrigeration Tour, Date TBD
- January 8th: Dinner
- February 12th: Lunch
- March 12th: Dinner
- April 9th: Dinner
- May 14th: Dinner

## 2024-2025 Sponsorships Opportunities

*Research Promotion Chair - Gary DeVore*

### Diamond Sponsorship:

Trane Technologies

### Gold Sponsorship:

Tom Barrow Company (TBCo), Commercial Air Management (CAM), B&I Contractors, Manhattan Construction, Gilbane Building Company, Thermal Concepts

### Silver Sponsorship:

Diversified Fluid Controls, Integrated Cooling Solutions

### Bronze Sponsorship:

Victaulic, Johnson Controls International (JCI), George A. Israel Jr. Inc.

I would like to thank those of you who have already committed to sponsorships for the 24-25 society year.

We would encourage anyone who values their membership in SWFL ASHRAE to review the many benefits of sponsorship detailed in the annual sponsorship letter attached at the end of this newsletter.

*If you'd like to either join our 24-25 sponsors or have already agreed to be a 24-25 sponsor and do not see your name listed above, please reach out.*

[gdevore@bandiflorida.com](mailto:gdevore@bandiflorida.com) / (239) 671-6448

Thank you, we appreciate your continued support.

# 2024 Golftoberfest

Historian Chair- Sidney Feldman





# Government Affairs

*Government Affairs Chair - Trevor Citek*

## **Government Outreach:** **ASHRAE Standards Recommended for Maryland BEPS Regulation**

On October 8, ASHRAE submitted comments on a Maryland regulation establishing Building Energy Performance Standards (BEPS.) The proposed BEPS are implementing provisions included in the state's Climate Solutions Now Act, passed in 2022, which require the establishment of energy efficiency and greenhouse gas reduction standards for buildings. The letter recommends the use of ASHRAE Standard 100, Energy and Emissions Building Performance Standard for Existing Buildings, along with other relevant ASHRAE standards and resources. The letter can be found on the ASHRAE website [here](#).

## **U.S. Congressional Activities:** **House Speaker Johnson Will Not Commit to Bringing the House Back in Session Before Elections**

With the threat of additional hurricanes, there is a potential looming disaster relief funding shortfall and concerns the federal government does not have enough funding to cover the rest of the hurricane season. President Biden urged House Speaker Mike Johnson (R-LA-04) to bring Congress back into session to address the funding shortfall prior to the election on November 5th. The President submitted a letter to Congressional leadership requesting additional funding for FEMA, the Department of Defense, and the Small Business Administration to ensure disaster relief funding will not run out before the end of the hurricane season. The continuing resolution (CR) that was passed at the end of September to provide funding through December 20 did not include additional funding for disaster relief. The Speaker remains adamant that Congress will reconvene after the elections and cited that time would be necessary to assess disaster areas and to determine needs and requests.

# Ice Thermal Storage for Colorado School

YEA Chair - Justin Fales

A hybrid chilled water/ice thermal storage plant for the Lucile Erwin Middle School in Loveland, Colo., has saved more than \$18,000 in energy costs annually. After an evaluation of alternatives and life-cycle analysis, the local power authority offered low-interest financing for the system to the Thompson School District.

However, the decision to implement the plant was made with building construction already well under way, so a major challenge was fitting the system into a space intended for chilled water primary and distribution pumps and a space for an outdoor chiller. A factory-built, skidmounted pump, valve, and control package solved this problem. Chilled water and ice production began with the school's opening in August with the controls system partially in manual mode. Commissioning the complete plant was delayed due to weather. All parties were brought back onto the project in later seasons to resolve issues and complete final details to make the system fully operational as intended. The goal of optimizing demand savings was delayed until everything was operating as intended and resulted in exceeding expectations by completely eliminating chiller demand from the utility bill.

The project uses a flexible ice thermal storage system concept with a demandlimit-controlled, chiller priority, partialstorage system. The design features a factory-packaged pump, valve, and PLCbased energy management system to control the chilled water/ice storage plant. The plant is comprised of a 103-ton (360 kW) capacity air-cooled chiller and 107 tons of chilled water capacity available from the ice storage and 860 tonhours (3025 kW)of latent ice storage.

**Authors:** Michael D. Haughey, P.E., Member ASHRAE

**Citation:** ASHRAE Journal, vol. 45 no. 5, p. 50-53

**Pages:** 50-53

**Publish Date:** May 2003

**Publisher:** ASHRAE



**Lucile Erwin Middle School features an ASHRAE Technology Award-winning hybrid chilled water/ice thermal storage plant**

2024-2025 Diamond Sponsor



2024-2025 Gold Sponsors



2024-2025 Silver Sponsors



2024-2025 Bronze Sponsors



**THANK YOU FOR YOUR SUPPORT!**



**From: ASHRAE Southwest Florida Chapter**

**Subject: ASHRAE Southwest Florida Sponsorship Opportunities for 2024-2025**

The ASHRAE Southwest Florida Chapter RP fund-raising events are excellent sponsorship opportunities. Your company reaches many key decision makers and sends a strong message of supporting the research that the community relies upon for comfort and sustainability.

The Southwest Florida Chapter is continuing to make sponsorships even easier by offering levels that include the promotion of your company at all chapter events! If you are unable to contribute at one of these levels, sponsorship opportunities for the Golf and Fishing tournaments will be offered separately before each event!

Go To: <https://www.swflashrae.org/sponsorship> for an on-line payment option!

## Annual Sponsorship Levels

### Gold Level - \$3,500 (Savings: \$885)

- Golf Tournament: Gold Sponsorship Package (Value: \$2,385)
  - (8) Player Entries, (1) Tee Sponsorship, (1) Flag Sponsorship, (8) Mulligans, (1) Arm Length Raffle, (8) Putting Contest Entries
- Fishing Tournament: Gold Sponsorship Package (Value: \$850)
  - (4) Entries, Company Logo on Shirt, and special recognition
- Tech Topic Presentation (Value: \$250)
- (4) YEA Cornhole Tournament Entries (Value: \$100)
- (10) Monthly Meeting Tickets (Value: \$350)
- (1) Meeting Sponsorships (Value: \$250)
- Signage at each monthly meeting (Value: \$100)
- Logo on Monthly Newsletter (Value: \$100)

### Silver Level - \$1,500 (Savings: \$615)

- Golf Tournament: Silver Sponsorship Package (Value: \$1,265)
  - (4) Player Entries, (1) Tee Sponsorship, (4) Mulligans, (1) Arm Length Raffle, (4) Putting Contest Entries
- Fishing Tournament: Silver Sponsorship Package (Value: \$425)
  - (2) Entries, Company Logo on Shirt
- (2) YEA Cornhole Tournament Entries (Value: \$50)
- (5) Monthly Meeting Tickets (Value: \$175)
- Signage at each monthly meeting (Value: \$100)
- Logo on Monthly Newsletter (Value: \$100)

### Bronze Level - \$1,000 (Savings: \$350\*)

- Golf Tournament: Tee Sponsorship (Value: \$500)
- Fishing Tournament: Bronze Sponsorship Package (Value: \$625\*)
  - (1) Entry, Company Logo on Shirt
- (1) YEA Cornhole Tournament Entry (Value: \$25)
- (2) Entries in either Golf or Fishing Tournaments (Value: \$250)
- Signage at each monthly meeting (Value: \$100)
- Logo on Monthly Newsletter (Value: \$100)

Portion of Proceeds to Benefit ASHRAE Research and the SWFL ASHRAE Chapter Endowment Fund  
SWFL ASHRAE is a 501©(3) not for profit organization



# ASHRAE Membership

ashrae.org/benefits

## Five Benefit Options Available.

Full Members and Associates can now select **1** of the following options:

### eLearning Course



**150+**

to choose from

### ASHRAE Standard or Guideline



**100+**

to choose from

### ASHRAE Handbook



PDF version of the most recent

### Handbook Online



**4**

most recent

### ASHRAE Certification Exam Study Guide



**3**

to choose from

First Year New Members automatically get:

**1 Free Registration**



to Winter or Annual Conference

**12 Months FREE**



Handbook Online

### Additional Member Benefits

**12**

month subscription to ASHRAE Journal



**25%** discount

On

**400**



publications in the Bookstore

**2000+**

free resources for members in the ASHRAE Technology Portal

**50,000+**  
Members



**190+** Chapters **16** Regions across the world





# STEM@Work

SCIENCE . TECHNOLOGY . ENGINEERING . MATH  
<http://www.leeschoolfoundation.org>

## Scheduled Technical Tours at B&I Office:

- Wednesday, November 13th  
(10am-12pm) - School TBD
- Wednesday, December 4th  
(10am-12pm) - School TBD
- Wednesday, January 22nd  
(10am-12pm) - School TBD
- Wednesday, February 12th  
(10am-12pm) - School TBD
- Potential for One Additional Steme@Work





## **Message from the Foundation**

Since 1986 the mission of the Foundation has been to enhance the quality of public education in Lee County by increasing community involvement in, and support for, Lee County Public Schools. A diverse group of local business and community leaders realized that the cornerstone of an economically strong community was a quality public education system.

The purpose of every initiative of The Foundation for Lee County Public Schools is to enhance and enrich the quality of public education in Lee County for students and educators. View our various programs to learn more about our students' unique learning opportunities and how teachers themselves are recognized and encouraged in their dedicated efforts.

## **Stem@Work**

Our focus on STEM began with the notion that students need more opportunities in the areas of Science, Technology, Engineering, and Math related fields. The National Science Foundation estimates that 80% of the jobs created in the next decade will require some form of math and science skills.

Our STEM Initiatives are a collaboration between the Foundation and the School District of Lee County. Funded through the generosity of our business partners, this initiative offers students the opportunity to participate in field trips and internships, as well as experience hands-on activities through partnerships with businesses in the community. Check out more information at: <https://leeschoolfoundation.org/>



## Student Advocacy & Mentoring Partnership (STAMP)

Realizing the great impact that mentors have on students, the Foundation has implemented the Student Advocacy & Mentoring Partnership (STAMP). STAMP is a program that offers students the opportunity to achieve success by providing them college and career planning resources and volunteer mentors to give students assistance, guidance, motivation and accountability to work hard and to ensure they graduate from high school to continue their education either through technical training or earning a college degree. It is a multi-year commitment for at-risk high school students to invest in their future and increase the high school graduation rate and post-secondary educational opportunities.

The STAMP program strives to accommodate eligible students, match them with mentors, and assist them in acquiring scholarships to cover the cost of attending college or other post-secondary training. Students and their families, mentors, school coordinators, and Foundation staff all work together through the STAMP program and are instrumental in helping students pursue their post-high school education and career goals. Students will also be able to attend STEM@work events to learn about local businesses.



Apply to STAMP

