May 15

Monthly Meeting
Please join us on the 15th at the Hess Building to welcome ASHRAE distinguished lecturer David Harvey Jr. of D.E. Harvey Builders, who will be speaking on “Best Practices on Leadership.” Click here to register.

May 30

YEA May Social
YEA is having their May Social on the 30th from 5:30-7:30 at McIntyre’s in The Heights. As always, tickets are $5 for YEA members and $10 for non-members, which gets you two drinks. Click here to register.

Want to become more involved with the Houston Chapter?
Talk to your chapter leaders to find out about volunteer opportunities for the 2019-2020 year. Click here for contact info.
Greetings ASHRAE Houston Chapter! It has been a fun year with some memorable experiences and has gone by in blink. Due to ongoing website updates, this is the last HAR newsletter until August under Kurt’s lead.

We still have a chapter meeting on May 15. Please read through the newsletter for other events and activities. Just because something is hosted as YEA or WIA does not mean that you are not welcome to attend. We look forward to seeing you at our last few activities.

It has been an honor and a privilege to serve as Chapter President this year and I look forward to continued involvement in the chapter. We have a fantastic group of volunteers, but there is always room for more if you want to join the fun.

On a personal note, this month marks my 10th year involved with ASHRAE and I suppose I must be officially over the hill as I just turned 41.

We look forward to seeing you at our last few activities and at the ASHRAE annual meeting in Kansas City June 22-26.

Best Regards,
Ken Shifflett, P.E
2018-19 ASHRAE Houston Chapter President
GET TO KNOW THE SPEAKER:

DAVID HARVEY, JR.

David Harvey, Jr. was born and raised in Houston and is one of 11 children of Pat and David Harvey, Sr. (founder). David joined D.E. Harvey Builders in 1977 after attending Notre Dame where he studied Architecture, and the University of Colorado where he received a B.S. Degree in Architectural Engineering. In 1986, he assumed the presidency and currently serves as Chairman of the Board and CEO. D.E. Harvey Builders has been named #1 General Contractor in Houston Business Journal ten times since 2005. David’s wife, Mikki, is a college professor at Rice University. He has three sons, two daughters and five grandchildren. He is a current board member of Catholic Charities, Founding Board member of Cristo Rey High School, Rice Design Alliance (previous Chairman of Board) and University of St. Thomas (Life Board Member). He is the recipient of the 2014 Ernst and Young Entrepreneur of the Year Award and the 2018 Houston Business Journal Lifetime Achievement Award.

BEST PRACTICES ON LEADERSHIP

It all starts with hiring the best. The job of good leadership is NOT to produce more followers but more LEADERS. Start by hiring them. Three winning qualities you should look for when hiring. Have a purpose and create alignment around it (goal congruence). Don’t forget they are still young (you were once) and treat them with respect (they will eventually earn it!). Hire and develop critical thinkers (holistic – both sides of brain). Understand their needs (humans), earn their trust and respect through your own ethical behavior. Develop relationships with clients by providing value (take risk and provide knowledge). Understand your market (its drivers) and economy. Competition and free market capitalism (does it still work?). Personal behavior and modeling the way (being a good example). Trust but verify (annual ethics survey).

MAY 15TH, 2019

$25 - ADVANCED REGISTRATION
$30 - AT THE DOOR
$35 - ALL NONMEMBERS

CLICK HERE TO REGISTER
At the April 17th meeting, President Kenneth Shifflett presented awards from the Region VIII CRC. These awards included the First Place Membership Award to Jeff Hunter, Regional Achievement Award to Keith Reihl, Certificate of Appreciation - Regional Vice Chair Membership Promotion to Alan Neely, the Presidential Award of Excellence to Bill Chalmers, and the Geronimo Quintanilla Award – Best Chapter Newsletter to Julie Thomet.

Luke Leung was unable to make the presentation, so his colleague Stephen Ray filled in shoes and presented on Tall Building Design to our chapter.
HISTORY ARTICLE

Accomplishments made by our chapter historian, Bruce Flaniken, in the 2018-2019 year:

- Dr. Frederick Ernst Giesecke, Reg F Taylor, Morris Backer and Damon Gowan all Houston Chapter Past Presidents and Society Presidential Members have been voted into the ASHRAE Region VIII Hall of Fame

- The Houston Motion to Award the ASHRAE 125th Anniversary Pilot Milestone Plaque for First Presbyterian Church Orange Texas Historical early 1907 design installed with operational air conditioning system was unanimously supported by Region VIII Chapter Delegates

- Chapter Historian Bruce Flaniken received the Society Gold Ribbon Award for the History of Dr. Frederick E. Giesecke inaugural Chapter President of Texas Chapter of ASHVE in 1937 and Society President in 1940-41

Thank you Bruce for another outstanding year as our chapter historian!
REFRIGERATION REPORT

INDUSTRIAL CO2 REFRIGERATION SYSTEMS, THE “NEW” NATURAL REFRIGERANT FOR LARGE SCALE REFRIGERATION PROJECTS

WRITTEN BY: BRYAN BEITLER, VICE PRESIDENT SPECIAL PROJECTS, COOLSYS

For many years, large scale refrigeration plants have used ammonia refrigeration systems, they are very efficient, good for high tonnage, and are widely accepted in the “industrial” refrigeration community as the standard for large cold storages and process refrigeration applications. Recent directions have offered other options for the end user, including low charge ammonia systems, a more “distributed” approach, eliminating central plants, need for onsite engineers, and the risk of a large discharges (however very rare). In addition, and the subject of this article, another option has surfaced using CO2 as the refrigerant, another natural refrigerant option. This article will describe the largest CO2 installation in North America, utilizing CO2 refrigerant for a pork processing facility in California.

There is nothing new about CO2 in reality, it was used as a refrigerant in the mid-19th century, reached its peak use in the 1920’s, declining when chemical CFC refrigerants were brought to market. It surrounds us, keeps our precious products frozen when used as dry ice, and has no detrimental effect on the ozone layer and insignificant effect on global warming.

In 2017, Michael Lau and his team at Yosemite Meat Co. had a vision of expanding his family owned pork processing plant into a larger state of the art facility, allowing space for business growth, improved efficiency and the ability to have future capacity available. An abandoned facility in Stockton was chosen as the location, and Michael had to determine what the best way was to refrigerate his new venture. Key decision points included: the final solution must be environmentally best in class; safety was of critical importance, utilizing a non-corrosive substance as the refrigerant; eliminate as many emergency and life safety issues as possible; ability to generate a significant amount of reclaimed heat; and whatever the choice, it must be cost effective on both first cost and operating cost. A CO2 system became the refrigerant of choice after an exhaustive study.

The plant includes approximately 110,000 square feet of refrigerated space, divided up in many different dedicated areas as a production plant dictates. Some plant statistics:

- 87 total evaporators
- 65 compressors
- 2450 compressor hp
- Five compressor rack systems
- 1398 tons of CO2 refrigeration capacity
- 5 hybrid gas coolers, allowing transcritical operation

The heart of the system consists of 5 parallel compressor rack systems, each with 13 semi hermetic compressors. Each rack is split up into three separate suction groups; one designed at -13 for freezer space and chill tunnels; one at +20 for processing spaces, cooler storage and shipping and receiving; and one at +38F for parallel compression, required during transcritical operation. Each rack operates independently from the others, and loads are dispersed between the racks so that each space has redundancy in mind.

Continue reading this article here.
Houston ASHRAE chapter was happy to end the school year with Texas A&M University with a presentation by Erik Deitz, a principal at Shah Smith, overviewing the HVAC system for the Zachary Building. The Zachry Engineering Education Complex is the largest academic building on the campus with 525,000-square-foot where the majority of engineering classes are held along with the Engineering Design Center and instructional labs. The presentation covered the decisions made for design of the HVAC system, interesting HVAC features for this building and Zach Facts. The Student Activities team wishes all the students a great summer and we will see you again next year.
MEMBERSHIP

TAKE FULL ADVANTAGE: BENEFITS OF MEMBERSHIP

Endless Technical Resources
- Monthly ASHRAE Journal
- HPB Magazine
- ASHRAE Technology Portal
- Free online access to Science and Technology the Built Environment research publication

Opportunities To Be a Part Of The Change
- Sharing knowledge on a technical committee
- Volunteering at the chapter level
- ASHRAE foundation

Career & Professional Development Resources
- ASHRAE Learning Institute
- ASHRAE eLearning
- YEA Leadership Programs
- ASHRAE jobs
- Become ASHRAE Certified

Connection to Global Community of Professionals
- Society meetings and conferences
- Chapter participation
- Committee involvement

Please welcome our new members:
Thomas Holland, Jacob Jia, Travis Wathen, Jason Berrio, Kerri Warms, Daniel Diehl, Jason Alber, Xavier Huerta-San Juan, Jeff Gloyer, Ravikanth Vajjha, Todd Sherrill, Conner Hardy, Wes Garza, Ross Roberts, Thomas Cocker

Joining or renewing is a simple 4-step process. Start by clicking here.
Questions about membership? Contact Michelle Baten at (832) 374-6845 or michelle.k.baten@carrier.utc.com

TREASURER REPORT

Chapter is in good financial standing
I would like to Thank everyone for their contributions to RP this year so far. The year is not over, please consider donating to ASHRAE if you can. The link to donations is www.ashraerp.com.

Houston has once again led the way in overall donations to RP but we are still about $651 below last year. Our RP events this year were all well attended and the addition of the fall golf tournament at Weston Lakes seemed well received.

I really want to say a large TX “THANK YOU” to our annual sponsorships which make Houston’s RP reputation and this position easier than some. We couldn’t do this without our annual sponsors stepping up early each year and getting us on a good start. I hope all of you will continue to make these sponsorships next year. We hope you found it rewarding for your business as well.

Please let me know if you would like to make an additional RP donation or if I can do anything to assist you.
THANK YOU TO CLIMATEC FOR SPONSORING THIS MONTH!
In 2018, ASHRAE released Standard 209: Energy Simulation Aided Design for Buildings. Two of the best opportunities that this standard offers are that of Cost Management and Quality Control of lighting, HVAC & envelope systems throughout design and construction process.

The standard prescribes ten distinct modeling cycles that are applicable to different stages of design & construction (see above), and an evaluation after occupancy. These cycles are shown in the bottom right figure.

Two definitions from the standard that represent a change in traditional methods are Optimization Objective and Value Management.

Optimization Objective: "a numerical value that is maximized or minimized as part of an optimization process." Building design and construction is always a balancing act between budget, market price of components and owner expectations. While most owners perceive budget as the maximum allowable investment, they may miss out on tracking the ‘value’ of investment. Simple optimizations are seen between investment and building-area (present-$/sf), or number of occupants and building-area (sf/person) but variables that affect long-term value of buildings are sometimes missing in these conversations. For instance, lifecycle-cost and building area (future-$/sf) that is significantly affected by selection of building systems in the beginning of projects. ASHRAE 209 can be used to encourage adoption of such variables and use these to define Optimization Objective of modeling process.

Value Management, Value Methodology & Value Analysis: “a process through which one or more project alternatives are identified that reduces the first cost of a building, system or component while preserving its basic functions.” For a long time, building owners and contractors have seen Value Engineering as ‘cost reduction’. The investigation behind value engineering has been restricted to adding or removing cost as a line-item from construction budget. ASHRAE 209 can be used to change that process in a significant way, especially during construction administration when different submittals can be evaluated for impact on Optimization Objective. For instance, does a certain control-package offered by one vendor impact lifecycle cost of the building favorably compared to a standard control-package; or a certain FPTU - although priced lower than competitors- has a long lead time and hence needs inventory thereby increasing the lifecycle cost.

As we have witnessed in past, ASHRAE standards change the way in which building industry works. And ASHRAE 209 represents a milestone due to the culmination of knowledge from simulation practitioners from last few decades, that will significantly improve building performance for years to come.
April 17, 2019 BOG Meeting – 10am HESS Building
Called to Order at 10:05am Attendees: Ken Shifflett, Kurt, Julie, John Walkik, Bruce, Neil, Josh Vanlandingham, Keith, Rachel, Kapil, Matt.

Called to order at

I. President – Ken
   a. Please contact your RVC monthly and copy Ken.
      And POAE**
   b. Photos to 2018ppn@gmail.com or info@ashraehouston.org
   c. Items to discuss at general meeting?
      i. Scholarships
      ii. CRC Awards
      iii. YEA – April 24
      iv. WIA - May
      v. TT Sponsor – Bartos
      vi. Annual Meeting June 22-26 2019 Kansas City MO
   d. Email David with PAOE activities
   e. CRC in Houston 2020-Bruce – April 23-25 2020 — Need sponsors or help? Bruce to asking for volunteers
      i. Hotel is selected (City Place Marriott), deposit is sent, dates are set.
      ii. Gender Neutral Options for Companion events – just send ideas to Bruce

II. Prez Elect - Kurt

   a. Technology Award Applications due March 1
      Learned a lot of what not to do.
   b. Nominating committee status? Keith, Kimberly T, Mike Langton, + 1 more volunteer. John Walkik volunteered to help

III. VP- Greg
   a. Golf March 25 – great event!
      i. Booked for next year? Yes, we are on the board for Longwood.
   b. RP training set up? Yes, it’s in Kansas City.
   c. We are on track to meet RP fundraising goals.

IV. Treasurer – Josh
   a. Taxes – submitted, Gilbert has acknowledged receipt of everything.
   b. QuickBooks subscription – once taxes are figured out. Only hold back is they only accept credit/debit. Josh to get debit account and use for the QuickBooks.

V. Secretary – Rachel
   a. Nametags – I still haven’t done this.

VI. Membership – Jeff et. al
   a. Grundfos is sponsoring $1,500 for new member sponsorship. Lots of applicants. Holding this open for a little while longer.
      i. Promote this on social media.
   b. Membership training at Annual Meeting June 22-26 – send someone, maybe CTTC or RP
BOG MINUTES

i. See if Shannon Yancy would want to go.

VII. Student Activities, K-12 – Brooke, Terry - not at meeting....
   a. National scholarships due in November – see ashrae.org student zone – any one apply?
   b. Need to send out chapter, Damon Gowan, and Richard Burr Scholarship Applications
   c. Kick off meeting for HCC and Lamar branches
      i. HCC DOne
   d. TAMU student design competition –
   e. Any Eweek involvement /K-12 activities? February 17th – 23rd. No/ Josh taught class at UoTH.
   f. Need to actually get checks to the scholarship recipients.

VIII. Historian – Bruce
   a. 125th Anniversary History Project for Church in Orange TX
   b. Got 4 of our members recognized at ASHRAE CRC.

IX. YEA- Thanh, Marisa, Rudy
   a. Volunteers to speak to student branches
   b. Rachel to ask Kimberly where the YEA ($5/$10) charges are going. Is this actually going into the endowment? Does YEA have an Endowment?
   Yes, YEA has an endowment. Who can confirm we are putting the funds in there? Rachel and Josh to transition this.
   c. Event on the April 24th.

X. Women in ASHRAE – Lauren, Catherine
   a. Sheila Hayler, Pres of ASHRAE here March 13th – Catherine is coordinating. – Great job! Any feedback? Successful event.
   b. WIA @ CRC – companion events for hubbies
      i. Cooking class, food tour, etc.

XI. POAE – David
   a. D12161950@yahoo.com
   b. Please email him for any activity – this is not happening

XII. Refrigeration – Matt
   a. Student Night – March 27th – feedback? Lots of interest at the event. Successful. Demari was a very gracious host. 25-30 people attended.

XIII. Sustainability / Energy Modeling- Kapil
   a. Kapil would like full commitment and support from ASHRAE for the IBPSA Symposium.
      i. Workshop, sponsorship ($1000).
         1. $20/attendee.
   b. Rachel motioned to sponsor the event. John seconded.
      i. Discussion: How do we get access to the other partners email list? You don’t really. You have to agree to cross promote. Only the sponsors will show up on the invite, not the collaboration partners.
BOG MINUTES

ii. Vote: All in favor. Motion passes.

XIV. Newsletter – Julie
   a. Next deadline- now!
      i. Send info to Julie.
   b. Advertise Annual Meeting KCMO June 22-26
   c. Website Upgrade
      i. Look for specific lists coming from Julie and Rachel. PLEASE READ THEM.

1. Table June newsletter to work on website.

XV. Webmaster – John
   a. Tabletop sponsor-Bartos

XVI. Honors and Awards – Alan
   a. Hall of Fame – Chiet Taylor, Gikeiki. Bruce to get DSA in Atlanta. Keith Reinh to be nominated?
   b. If anyone has ideas for Fellows – Carl Crow? Jim Buckley? Send them to Alan.

XVII. Social Media – Teresa, Mitchell (Rudy)
   a. Any posts last 30 days? –

XVIII. Directory – Richard Rusk
   a. Excellent Job! Will serve again 19-20

XIX. Pledge and Prayer – Neal

XX. Grass Roots Government Advocacy – Bill
   a. Roster of government officials, energy codes, and code officials. -per RVC at CRC Just start putting the list together

XXI. COMMISSIONING CHAIR – David MacLean

a. Committee has met together and divided up tasks.

b. Working with COH for code language for CX requirements

c. Free training available with IECC now that there is an IECC chapter in Houston.?

d. Need CX section on website No we don’t. There’s a section called Resources on the website with Mechanical & Energy Codes. There is already a cnmx document from COH.

e. Meeting this Friday

f. Working with CoPearland

XXII. Other business:

XXIII. Meeting called to close at 10:55am
# ROSTER

## ASHRAE Houston Chapter Roster

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>TelePhone</th>
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<tbody>
<tr>
<td>President</td>
<td>Kenneth Shifflett</td>
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</tr>
<tr>
<td>President Elect</td>
<td>Kurt McCulloch</td>
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<tr>
<td>Vice President</td>
<td>Greg Tinkler</td>
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<tr>
<td>Treasurer</td>
<td>Josh Vanlandingham</td>
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<tr>
<td>Secretary</td>
<td>Rachel Haines</td>
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<tr>
<td>Past President 17-18</td>
<td>Bill Chalmers</td>
<td>(713) 898-2874</td>
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<tr>
<td>Reception</td>
<td>Tim Navarro</td>
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<tr>
<td>Attendance</td>
<td>Trey Green</td>
<td>(713) 782-2701</td>
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<td>Board of Governors</td>
<td>Bruce Flaniken</td>
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<tr>
<td>Board of Governors</td>
<td>Alan Neely</td>
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<td>Board of Governors</td>
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<tr>
<td>C.I.C Delegate</td>
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<tr>
<td>C.I.C Delegate</td>
<td>Keith Reihl</td>
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<td>C.R.C Delegate</td>
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<td>Chaplain</td>
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<td>CTTC Chair</td>
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<tr>
<td>Commissioning Chair</td>
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<td>Energy Code</td>
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<tr>
<td>Grass Roots Advocacy</td>
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<td>Historian</td>
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<tr>
<td>Historian Emeritus</td>
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<tr>
<td>Honors &amp; Awards</td>
<td>Alan Neely</td>
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<tr>
<td>Membership Promotion</td>
<td>Jeffrey Hunter</td>
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<tr>
<td>PAOE Administrator</td>
<td>David Williams</td>
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<tr>
<td>Photographer</td>
<td>Skip Williams</td>
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<tr>
<td>Photographer</td>
<td>Valerie Roberts</td>
<td>(281) 500-8136</td>
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<tr>
<td>Professional Certifications</td>
<td>Alex Roessler</td>
<td>(713) 782-2701</td>
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<tr>
<td>Refrigeration</td>
<td>Matt Burris</td>
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<td>Resource Promotion</td>
<td>Greg Tinkler</td>
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<td>Social Media</td>
<td>Mitchell Campbell</td>
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<td>Student Activities</td>
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<td>Young Engineers In ASHRAE</td>
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