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For ASHRAE news and society  
headlines, please check:  
[ashrae.org/about/news](https://ashrae.org/about/news)

## APRIL MEETING

Tuesday, April 4, 2023 5:30 PM - 9:00 PM

### Decarbonization: Lessons from the Amazon Rainforest

Tracey Jumper - Corporate Director of Commissioning,  
EMCOR Services

**SAVE \$5 with  
Early Bird sales!**

**Chapter Members: \$65**

**Non-Members: \$75**

**Students are free!**

**REGISTER**

### LOCATION:

Quiet Cannon Conference Center  
901 Via San Clemente  
Montebello, CA 90640

## UPCOMING EVENTS

**2023 Virtual ASHRAE Technical Seminar**  
April 14, 2023



**Hawaiian-Themed Golf Tournament**  
May 12, 2023



# About the Meeting



**TRACEY JUMPER**  
CORPORATE DIRECTOR OF  
COMMISSIONING  
AT EMCOR SERVICES

## DECARBONIZATION: LESSONS FROM THE AMAZON RAINFOREST



**TUESDAY  
APRIL 4TH, 2023**

Do you wonder what it's like on the front line of our planet's largest and most important carbon sink? Do you want to know ways that HVAC&R professionals are impacting and protecting our main planetary ecosystems? Do you want to know ways you can take more action? Initially inspired by a death road race over the Andes and through the Amazon jungle, this presentation includes some inspiring and surprisingly entrepreneurial ways that industry folks can (and are) taking action to protect our most precious environmental systems. In compliance with ASHRAE Task Force on Decarbonization recommendations.



# Speaker Biography



## **Tracey Jumper**

**Corporate Director of Commissioning  
EMCOR Services**

Tracey Jumper is a Certified Commissioning Professional (CCP) and Corporate Director of Commissioning at EMCOR Services Mesa Energy Systems where she oversees commissioning services in 20 offices in CA, NV, & AZ, operating out of Las Vegas. She has 22 years of experience in mechanical systems engineering and maintenance services and has been identified as a specialist in commissioning and improving existing buildings. She previously owned her own Cx consulting firm and managed two others before that, with Cx projects across the U.S. Tracey is on the ASHRAE technical subcommittee that developed the new ASHRAE Standard 230 – The Commissioning Process for Existing Buildings (2023). She is a subject matter expert credited in The Building Commissioning Handbook 3rd Ed. and editor of The BCxA's Best Practices for Existing Building Commissioning. In 2022, she was recognized as one of Engineered Systems' 20 Women to Watch in HVAC. Before that, in 2020 she was honored as one of Consulting-Specifying Engineer magazine's Top 40 Under 40. She also has been recognized by her peers for outstanding service to the commissioning industry, having received the BCA President's Award in 2016. Besides facilities commissioning, Tracey is a philanthropic eco-adventurer. In April of 2022, she raised the top funds for CoolEarth.org by completing an unassisted adventure challenge of riding an 86CC monkey bike (small motorcycle) through the rainforest and over the Andes on some of the most treacherous terrain on the planet.

# Announcements

## **2023 Annual ASHRAE Technical Seminar**

**Friday, April 14 2023**  
**8:00AM - 12:00PM PST**  
Via Online Meeting

**"Energy Efficiency Measures, Code Changes,  
and Decarbonization Strategies  
Across the United States"**

Please join and support ASHRAE SoCal by attending this 4-hour LIVE seminar (via Zoom) with a panel discussion on energy efficiency measures, code changes, decarbonization strategies across the United States.

This seminar will feature presentations about various methods being used to meet decarbonization efforts in building design in four different cities. This will include discussion of local taskforce efforts, newly developed technologies, and example projects from each city.

The goal is to compare the experiences, challenges, and incentives of energy savings and decarbonization across the United States so attendees can come away with a greater understanding of how they can make changes in their own HVAC sectors.



# 2023 Annual ASHRAE Technical Seminar

**Friday, April 14 2023**  
**8:00AM - 12:00PM PST**  
Via Online Meeting

**"Energy Efficiency Measures, Code Changes,  
and Decarbonization Strategies  
Across the United States"**



Kyleen Rockwell, PE, AIA  
Interface Engineering, Inc.  
Denver, CO



James Del Monaco  
P2S Engineering, Inc.  
Los Angeles, CA



Ajit Naik, PE  
Baumann Consulting  
Chicago, IL



Jamison Caldwell, PE  
SmithGroup  
Washington, DC & Boston, MA



Katrina Kelly-Pitou, PhD



Akshay Dhanapal Kumar  
Panel Moderator  
Los Angeles, CA

**Registration:** <https://ashraesocal-spring-tech-seminar.eventbrite.com>



# Announcements



ASHRAE SOCAL'S

HAWAIIAN THEMED

## *Golf Tournament*

FRIDAY, MAY 12TH, 2023

INDUSTRY HILLS GOLF CLUB, CITY OF INDUSTRY

All proceeds support SoCal  
ASHRAE's Scholarships,  
Research Promotion, and more!



# SPONSORSHIPS



## ROAD TO HANA \$6500

8 golfers, 32 raffle tickets, Hawaiian lei's with your company's logo/name for all attendees, tee signage, recognition on sponsor banner, admission for 8 to the awards banquet with reserved table (1 available)

## HONOLULU \$3800

Have your company logo printed on commemorative golf shirts for every golfer in attendance! Includes admission for 2 to the awards banquet, and recognition in ASHRAE's monthly newsletter (1 available)

## SHAKA \$3000

4 golfers, 8 raffle tickets, drawstring bag for swag with your company logo for all golfers, tee signage, recognition on sponsor banner, and admission for 4 to the awards banquet (1 available)

## OAHU \$3700

8 golfers, 16 raffle tickets, tee signage, recognition on sponsor banner, and admission for 8 to the awards banquet with reserved table

## INDIVIDUAL \$550

1 golfer, admission to awards banquet

## LONGEST DRIVE \$400

Tee signage at assigned hole

## CLOSEST-TO-PIN \$400

Tee signage at assigned hole

## DINNER ONLY \$125

Admission for 1 to the awards banquet

## MAHALO \$2800

Be our beer sponsor! Includes signage at the turn, koozies with your company logo for all golfers, and admission for 2 to the awards banquet (1 available)

## MAUI \$1900

4 golfers, 8 raffle tickets, tee signage, recognition on sponsor banner, and admission for 4 to the awards banquet

## ALOHA \$5000

8 golfers, 16 raffle tickets, commemorative color changing cup with your company's logo for all golfers, tee signage, recognition on sponsor banner, admission for 8 to the awards banquet with reserved table (1 available)

## MELE KALIKIMAKA \$3500

4 golfers, 16 raffle tickets, trail mix with your company's logo on the package for all golfers, tee signage, recognition on sponsor banner, and admission for 4 to the awards banquet (1 available)

## TIKI \$1400

Setup on a tee box to host drinks, games, giveaways, etc. (any food or beverages must be purchased and coordinated directly with the golf course). Includes lunch and admission to the awards banquet for 2, and a table and 2 chairs at the designated tee box (6 available)

## KONA \$1000

2 golfers, 4 raffle tickets, tee signage, recognition on sponsor banner, and admission for 2 to the awards banquet

# REGISTRATION

REGISTRATION ACCEPTED THROUGH MAY 01, 2023

*Register Online:*

<http://ashraesocalgolf2023.eventbrite.com>

*To Pay By Check:*

Southern California Chapter ASHRAE  
c/o Joey Jiron  
528 E Merced Ave.  
West Covina, CA 91790



## EVENT SCHEDULE

8:00 AM Registration  
10:00 AM Tee Off/Boxed Lunch  
4:00 PM Awards Banquet

## CONTESTS

Closest-To-Pin (4)  
Longest Drive (Men & Women)  
Hole-In-One Prizes (4)

## ADDITIONAL

Raffle  
50/50 Raffle  
Mulligans  
Live Auction

## FOR QUESTIONS:

Karena Salch  
Golf Tournament Co-Chair  
ksalch@albireoenergy.com  
(714) 306-4787

Joey Jiron  
Golf Tournament Co-Chair  
jjiron@wasocal.com  
(626) 523-1575

*Hawaiian Attire  
Encouraged!*





# Search for Mentors



Hello ASHRAE Members,

We are looking for mentors to work with our student branches of ASHRAE in a wide range of capacities whether you have an hour every few months or if you have an hour every week to help mentor students. We are partnering with local ASHRAE student chapters to help students with monthly presentations on different topics, resume workshops, and ASHRAE Senior Design Competitions! All levels of experience from our members are greatly appreciated and welcomed!

Please reach out to Chet Dik at [cdik@amagroupusa.com](mailto:cdik@amagroupusa.com) if you'd like to work with students to help develop them to be fine members of ASHRAE and to show your support for the development of our students to play a pivotal role in the future success of our industry!





# Mike's Monthly Maintenance

by Mike Gallagher, [MGallagher@wasocal.com](mailto:MGallagher@wasocal.com)

## Your Ears: The Best Diagnostic Tool

Don't laugh. I often get that reaction when I tell people that the single best diagnostic tool that we possess in HVAC is our ears, coupled with that computer between our ears. But it is true.

I don't pretend that this is a comprehensive list. I'm not good enough to think of all the possibilities. But here are 10 examples of things that I've used my ears (poor though their performance be at this point; thank God for hearing aids; I'm a child of the disco era) to diagnose. Please use this as a set of examples for your junior engineers.

1.) Scroll Compressor Rotation. You all know that any 3 phase motor will spin backwards if the phases are mis-connected. Scroll compressor backwards rotation is easy to diagnose (which makes one wonder why it happens so often). Sounds like a bunch of rocks being shaken in a steel Thermos. Somewhat similar to # 2.

2.) Pump Cavitation. You know about cavitation; inadequate net positive suction head leads to air being pulled from suspension in a fluid. This occurs at the point of lowest pressure, right at the impeller surface. Those little air bubbles emerge with a great deal of kinetic force. If you examine the impeller (or at least what ever portion of the impeller that survives) afterward, it looks like somebody took a tiny ball peen hammer and had a field day. To your ears? It usually sounds like several pieces of very small pea gravel being shaken in that same steel Thermos.

3.) Failing Bearings. OK, this one is almost too obvious for words if the wear is severe. Bearings typically fail because some unqualified person over-greased them and blew out the seals (bearing lube

is definitely an area where less is more). The result was all the grease running out when the bearing was fully loaded and got warm. After the grease runs out it gets hot. End of story. Except for the sound. Nobody can predict whether a loud bearing has 6 days, 6 weeks or 6 months to live. But almost anybody can tell that something is wrong...often from a great distance. And if the sound is only just beginning to be audible, a stethoscope works well. Lacking a stethoscope, a big screwdriver with a solid non-wooden handle will also magnify vibration if the point of the screwdriver is put on the bearing housing and your ear is put on the butt of the screwdriver.

4.) Duct Rumble/Turbulent Flow. Turbulence creates all sorts of impact loads on the duct surface. That leads to noise. If you can live with the noise, do nothing. If not, there are ways to mitigate the situation. Again, don't laugh...but a properly positioned 1 row heating coil immediately after an elbow that is causing turbulence in the duct can work wonders. The key is to restore some sort of reasonable velocity profile within the duct. Give me a call or drop me an email if you have any questions.

5.) Fan Balance. The classic version of this example is condenser fan motor blades. Those blades are relatively inexpensive, and if you can hear an oscillation, just replace them before they kill the fan motor. Forward curved (FC) fan blades in a dusty environment, which have accumulated dust in the blades and eventually become unbalanced, are another example. Long before an FC fan gets noisy you have sacrificed efficiency and air flow. When the problem becomes audible it is past time to clean the

# Mike's Monthly Maintenance

blades if possible...but that may not work, because it is difficult to clean so efficiently that balance can be re-achieved. With old/unavailable/expensive wheels, balancing may be needed after cleaning, and still be the least expensive and disruptive solution. With inexpensive wheels, especially if a bearing replacement can be justified at the same time, a fan wheel and bearing (and often fan shaft) replacement may make sense.

6.) Belt Tension/Worn Sheaves. Motor sheaves only get so many starts before they become so worn that they are tearing up fan belts. That is often an audible process. Rule of Thumb? For a "normal office hours" office building, a motor sheave is typically good for 7-8 years if not on a VFD. If a VFD is involved, so start/stop is not abrupt, I'd guess double that life span. Improperly tensioned fan belts is another example of a problem that is often audible.

7.) Pneumatic Control System Air Leaks. Yes, there are still a lot of pneumatic buildings out there. You may hear a control air compressor cycle far too often, indicating leaks within the pneumatic system. Frequently the only way to find them is to come in on a weekend, when there is minimal ambient noise, and listen with your head inside the ceiling cavity.

8.) Worn Compressor Valves. Most built up DX and chiller systems using reciprocating and screw compressors have a pump down cycle of some description to remove refrigerant gas from the suction line before the compressor cycles off. This is to minimize the potential for refrigerant condensation in the suction line before the compressor again turns on, in order to avoid slugging ("slugging" is our industry's jargon term for liquid refrigerant entering the compressor). Some systems are set up to provide continuous pump down, such that if internal leakage causes the vacuum on the system's suction side to diminish, the compressor will restart and run long enough to restore the vacuum (measured by a pressure switch). If you are dealing with such a system and hear compressor short cycling occurring, it is often worn piston or slide valves, worn liquid line solenoid valves, or both. And yes, that short cycling of the compressor is very hard on it; it

is a great way to pump all of the oil out of the compressor without enough operating time for the oil to return.

9.) Sympathetic Vibrations. The problem with sympathetic vibrations is that two or more devices can create vibrations that individually are not detectable, and may not even exist...but if they combine in an almost magical way, they increase exponentially. My best personal example is when I was called to a floor of a building that had three direct drive, chilled/hot water 4 pipe fan coil units in the ceiling cavity. Each fan coil had a 3 speed fan switch. The noise was brutal. I decided to go to the speed switch and change the fan speed on one unit. After doing so, the noise vanished. This was a sympathetic vibration situation between at least 2 and possibly 3 units. A fan speed change to one unit eliminated the sympathetic vibration. The magnitude of this sort of thing is hard to believe until you have experienced it.

10.) Unreleased Vibration Isolators. I run into this a couple of times per year. Air handling units and even loose fans with internal isolation ship with the vibration isolators bolted down tight, in order to avoid the damage that would occur due to road shipment bumping if the vibration isolation was shipped in a "floating" manner. The challenge here, of course, is to make sure that the start-up technician releases each isolator when the fan is started, rotation is checked, belt tension is adjusted, etc. Bad things can happen if the isolation is not released, especially if the fan motor is controlled by a VSD. One of the seldom discussed downsides of VSD control is the increased chance that a particular speed will trigger a sympathetic vibration. The sympathetic vibration situation can get brutal if the vibration isolation has been neutered. In the same way, sometimes people make the mistake of putting internally isolated equipment on external springs. The two springs in series can also do weird things; if you run into that situation, it makes sense to experiment with actually locking back down the internal springs.

As always, let me know if any questions or comments.  
[MGallagher@wasocal.com](mailto:MGallagher@wasocal.com)

# Research Promotion

Corporation and Individual tax deductible **contributions** helped ASHRAE fund the following Research

IDENTIFIER	TC/TG	COST	RESEARCH TITLE OR SUBJECT	CONTRACTOR
1408-RP	2.06	\$149,839	The Effect of Lining Length on the Insertion Loss of Acoustical Duct Liner in Sheet Metal Ductwork	U. NEVADA- Las Vegas, NV
1455-RP	1.04	\$160,000	Advanced Control Sequences for HVAC Systems - Phase I Air Distribution and Terminal Systems	TAYLOR ENGINEERING - Alameda, CA
1469-RP	5.10	\$350,000	Thermal Comfort in Commercial Kitchens	KEMA, INC. - Oakland, CA
1515-RP	2.01	\$174,714	Thermal and Air Quality Acceptability in Buildings that Reduce Energy by reducing Minimum airflow from Overhead Diffusers	UC-BERKELEY - Berkeley, CA
1544-RP	6.06	\$194,850	Establishing Benchmark Levels and Patterns of Commercial Building Hot Water Use	APPLIED ENERGY TECHNOLOGY - Davis, CA
1588-RP	4.07	\$75,000	Representative Layer-by-Layer Descriptions for Fenestration Systems with Specified Bulk Properties such as U-factor and SHGC	WHITE BOX TECHNOLOGIES, INC. - Moraga, CA
1609-RP	7.03	\$110,000	Defining the Capabilities, Needs and Current Limitations of Building Information Modeling (BIM) in Operations and Maintenance for HVAC&R	HITCHCOCK CONSULTING - Kelsey, CA
1665-RP	3.02	\$103,685	R-40 Stability with HVAC&R System Materials	McCAMPBELL ANALYTICAL, INC. - Pittsburgh, CA
1673-RP	9.12	\$90,000	Revision of the ASHRAE HVAC Design Guide for Tall Commercial Buildings	B&S Analytics - Marina Del Ray, CA
1682-RP	5.02	\$117,719	Study to Identify CFD Models for Use in Determining HVAC Duct Fitting Loss Coefficients	Embry-Riddle University - Prescott, Arizona
Grant 14-15	2.01	\$20,000	Support for the Development of ASHRAE Thermal Comfort Database Mark II	UC-BERKELEY - Berkeley, CA & U. SYDNEY, Australia

Support Future Research in  
Building Science & Air Conditioning !

For online contributions go to [www.ashrae.org/contribute](http://www.ashrae.org/contribute)





# Online Donation to ASHRAE Research Promotion

## Resource Promotion Chair for SoCal Chapter

100% of this money will go to research, meaning not only you are helping creating jobs for some people ( those who actually do the research projects ) you are also helping advancement of our industry and helping green engineers such as myself learn faster and have better, more reliable resources. And for that we thank you!

You can make your contribution by:

- Going online and following instructions below ( will take 2 mins !)
- Call me and give me your information and I will do it for you
- Send a check directly to headquarter
- Send a check to me
- Ask me to come pick your check up
- Or anything else you are comfortable with, be creative!

Thank you all and see you soon.

### Online Contribution

Go the <https://xp20.ashrae.org/secure/researchpromotion/rp.html>

1. In the first rectangle put your contribution amount and check ASHRAE Research circle.
2. Check the box for endowed support
3. In existing fund name copy : S California Chapter
4. If you want to support scholarship please fill the scholarship amount and pick general
5. Click on personal contribution
6. Under contribution information field in red are required, fill out your information
7. SUBMIT and wait for your name to pop up a san honor roll investor !

**Invest in ASHRAE and Help Shape our Future**

I would like to financially support ASHRAE's mission, programs, and member services indicated below: (indicate the amount you wish to contribute in U.S. dollars to any or all resources below)

U.S.\$  ☒ ASHRAE Research ☐ ASHRAE Research Canada  
U.S.\$  ☐ ASHRAE Learning Institute and educational programs  
U.S.\$  ☐ Endowed Research via ASHRAE Foundation.

☒ By checking the box, I indicate that I understand that these are endowed funds and permanently restricted for the support of ASHRAE Research.

Existing Fund Name (if known):   
[Click here to see existing endowments](#)

U.S.\$  ASHRAE Scholarships (endowed scholarship support)  
 (Select One)  
If "Other" is selected, please enter the name of the Scholarship

U.S.\$  ASHRAE General Fund  
U.S.\$  Young Engineers in ASHRAE (YEA) Support

U.S.\$  **Total contribution to be charged to credit card**

**Please check one:**  
☒ Personal Contribution ☐ Company Contribution ☐ Chapter Contribution  
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**Rey Ong**  
[rong@siglers.com](mailto:rong@siglers.com)

## REMEMBER: All donations to ASHRAE are tax-deductable!

# Membership Corner



## Membership Promotion

To become a member of the Southern California Chapter you must first be a member of Society (for more info, please visit [www.ashrae.org/membership/join](http://www.ashrae.org/membership/join)). If you are currently a member of Society and wish to join the Chapter, you can synchronize your renewal dates by paying pro-rated Chapter dues. Society membership is \$205 for Associates and Members, \$21/\$79/\$105 (Fee per year at a 3 year introduction) for Affiliates, and \$21 for students; Chapter membership is \$60 for Affiliates, Associates and Members and \$10 for students. Student Transfer membership allows you to maintain a reduced membership for the two years following graduation.

\*Rate changes every year for the first 3 years.

If you have any questions about your membership, please don't hesitate to contact **Alex Larson** by email at [Alex.Larson@dmghvac.com](mailto:Alex.Larson@dmghvac.com)

### ***HAVE YOU PAID YOUR MEMBERSHIP DUES?***

Even though you have paid your Society membership dues, don't forget to pay your Chapter dues. Chapter dues go directly to the SoCal Chapter and are greatly appreciated. If you haven't paid your Chapter dues yet, please be sure to stop by reception at the next chapter meeting and we can accept your dues directly. Thank You!

## SmartStart

Are you a Student Member that recently graduated? Do you know someone that is? First off, welcome to the real world! Secondly, you should all take advantage of the SmartStart Program! SmartStart is a 3-year program that allows Student Members to transfer to Associate grade membership at a fraction of the cost:

First Year: \$21

Second Year: \$79

Third Year: \$105

Join within 6 months of your graduation date to take advantage of the SmartStart program now!

([https://fs12.formsite.com/ashrae/form581146616/secure\\_index.html](https://fs12.formsite.com/ashrae/form581146616/secure_index.html))

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# 2022–2023 Board of Governors and Chairs

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Raffle Chair	Shahpoor Khosravi	(301) 529-2742	shahpoor.khosravi@parsons.com	
Director of Student Activities, YEA, & Historian	Cetin "Chet" Dik	(310) 846-4657	CDik@amagroupusa.com	
Student Activities Chair	Alexandre Authie	(310) 846-4660	aauthie@amagroupusa.com	
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Golf Tournament Chair	Joey Jiron	(562) 360-4588	joeyjiron@aol.com	
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Southern California Chapter of ASHRAE – P.O. Box 80133 – San Marino, CA 91118

