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Sol*Air



Newsletter for the Southern California Chapter of ASHRAE

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JANUARY MEETING

Tuesday, January 10, 2023 5:30 PM - 9:00 PM

Time Management

Pam Duffy - Co-Founder, Powerhouse Consulting Group

Chapter Members: \$65

Non-Members: \$75

Students are free!

**SAVE \$10 with
Early Bird sales!**

REGISTER

LOCATION:

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

UPCOMING EVENTS

YEA/Student Mixer

January 20, 2022



Visit us: ashrae-socal.org

For ASHRAE news and society
headlines, please check:
ashrae.org/about/news



About the Meeting

PRODUCTIVE FROM ANYWHERE: PRACTICAL TIPS TO GET STUFF DONE



**Jan 10th, 2023
5:30pm-8:00pm**

Pam Duffy, PE
co-founder Powerhouse
Consulting Group

Quiet Cannon Restaurant,
901 Via San Clement, Montebello
Raffle prizes and Networking



In the Spring of 2020, the world came to a screeching halt when the rapid spread of an infectious disease forced millions of people to shelter in place. Adapting to a new way of work – without the amenities of an office, in-person interactions, or business travel – proved to be a challenge for nearly everyone. In this presentation, attendees will learn about easy-to-implement tips and tricks to boost productivity. Plus, learn best practices for staying focused in any kind of workplace: in the office, working from home, or on the road.

Speaker Biography



Pam Duffy, PE

Co-Founder

Powerhouse Consulting Group

Pam Duffy, P.E. is the co-founder of Powerhouse Consulting Group, which provides software and business operations consulting services.

Pam has a mechanical engineering degree from the University of Central Florida where she first joined ASHRAE as a student member. She has over 15 years of experience in the HVAC industry with roles in mechanical design, application support, technical training, product development, and product marketing.

In ASHRAE, Pam is the Chair of T.C. 1.7 and has served as a Distinguished Lecturer since 2017. Pam is the recipient of ASHRAE's Distinguished Service Award.

Outside of ASHRAE, Pam is a Life Member of the Society of Women Engineers (SWE), has been named to the Consulting-Specifying Engineer's 40 under 40 list, and serves on the AHR Expo Industry Council.

President's Message

Happy New Year to our dear ASHRAE SoCal readers!

This 2023 year, ASHRAE Southern California Chapter is promising the same steadfast commitment to our value propositions: **scholarships, membership, and research**. It's our grassroots contributions of time, energy, connections, and—of course—money that keeps our students coming back, our networking opportunities high, and our national standards up to date!



Please join us for our first meeting of the year, by ASHRAE Distinguished Lecturer Pam Duffy! Pam will be discussing "Productive From Anywhere: Practical Tips to Get Stuff Done" on January 10th at 5:30pm at Quiet Cannon in Montebello.

An important note: at this January 10th meeting, we will be voting on some Bylaw revisions. If you are a paid member of ASHRAE SoCal Chapter as of January 1st, you should have received that email with the revisions to review. We will be voting to approve the revisions at our next meeting. Please check your emails!

For a quick peek into our 2023 Q1 events:

- January 9th – Virtual BOD Meeting – <https://p2sinc.zoom.us/j/87387160834>
- January 10th – Chapter Meeting– Productive From Anywhere with Pam Duffy
- January 20th – YEA/Student Mixer – Looking for Sponsors!
- February 6th – Virtual BOD Meeting – <https://p2sinc.zoom.us/j/83610334209>
- February 7th – Chapter Meeting – Joint with ASPE – Membership Promotion Night

We're still looking for RP Tabletop sponsors for next meeting, so if you're interested, please reach out to our RP Chair, Rey Ong at rong@siglers.com. Each vendor gets a 60-second elevator pitch, and it's the only time ASHRAE allows commercialism during the meetings.

We'll have more updates coming. Stay tuned and read the articles we have...

Hope to see you all very soon! Thanks for joining us for what's sure to be another stellar year.

Sierra Spitulski

ASHRAE SoCal President, 2022-2023

Updates to Chapter Bylaws

Your SoCal Chapter of ASHRAE has been reviewing the Chapter Bylaws during the previous 2021-22 and current fiscal years. While there were minor grammatical corrections the two more significant changes were replacing Board of Governors with Board of Directors, and the creation of an Investments Committee. The original version of the Bylaws as well as the proposed revised Bylaw document may be reviewed on the chapter's Website page:

<https://www.ashrae-socal.org/chapter-bylaws>

Board of Directors

A chapter member pointed out that since our Articles of Incorporation language references a Board of Directors our Bylaws should reflect that for consistency. Neither term is exclusive to the legal structure of our chapter however since our board members are now and have always been referred to as "Directors" this change was made in these proposed Bylaws.

Investment Committee

The most significant bylaw change was the creation of an Investment Committee. The Board of Directors and multiple former board members and past presidents felt that the growth of our scholarship investment fund – at one point nearly \$1M dollars – necessitated a more structured and transparent reporting mechanism that accurately reflected the board's fiduciary role and affirmed the board's responsibility managing how the chapter's funds were invested and reported.

While there were many opinions and inputs to this inclusion, we must emphasize two key points:

First, nothing in this proposed bylaw section should be taken to suggest there has been impropriety with the management of the chapter's investments to-date. The board and committee advising the board on the recommendation were solely focused on creating a mechanism for transparent oversight that properly placed fiduciary responsibility with the elected board members.

Second, all funds raised toward an investment goal, in particular scholarships, cannot be used for any other purpose. The Investment Fund committee, which answers to the Board of Directors, is charged with ensuring funds endowed for chapter programs are maintained in those endowments. The board foresees raising funds for other endowments such as Research Promotion and an Operating Reserve some time in the future. These funds, as are scholarships, will be dedicated to the purposes for which they have been endowed.

Updates to Chapter Bylaws

Conclusion

Any change to a chapter's bylaws is a serious endeavor and not meant to be taken lightly. It is our hope that properly announcing and educating our membership on such changes will provide members adequate time needed to responsibly assess these recommended changes and make an informed decision accordingly.

Our bylaws require that any proposed change be noticed 7 days in advance of a chapter meeting and that a vote of those members in good standing be taken at such meeting and that a vote in the affirmative of 2/3 of those members attending be required before the board of directors may advance the proposed bylaws to ASHRAE Society.

These proposed bylaws will be introduced at the **January 10th SoCal Chapter Program Meeting** at which time a meeting of chapter members in good standing will be called to order. Robert's Rules of Order require a motion, a second, and then discussion followed by Calling the Question. All members in good standing may raise their hands in Discussion. Once Discussion is closed a vote of the members in good standing will be taken.

The January 10, 2023, SoCal Chapter program meeting will be held at the **Quiet Cannon Conference & Event Center**, 901 Via San Clemente, Montebello, CA 90640. Reception begins at 5:30 PM and the **evening program starts at 6:30 PM**. The Bylaw revision vote is expected to be presented shortly after the start of the meeting.

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 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!



ASHRAE SoCal Chapter Membership Chairperson

And we don't mean "Wanted" as in Billy the Kid, Blackbeard, or one of the Jonas Brothers. We mean we really want/need/could use you help by participating as your SoCal ASHRAE chapter Membership Committee Chairperson.

This job has everything (apologies to [Stefon](#)): Trips to faraway places like Downey and Daggett; standing on freeway off-ramps with a sign that says "Will work for ASHRAE Raffle Tickets"; a chance to mingle with all sorts of scalawags, slide rule readers, and the occasional sports nut; being recognized for quintupling our chapter membership with your Name In Lights. What's not to love???

Seriously, this is a great opportunity to not only "pay it forward" to your industry but also to advance yourself and your company. You will be connecting with thousands of former and potential chapter members, dazzling them with your repartee and grasp of basic engineering tenets like entropy, fan laws, and the odds of winning a raffle ticket. More important, you will have the opportunity to run your own team if you so choose, and also to collaborate with the rest of your ASHRAE peers. Visibility, baby!

One of first big membership drive will need to happen with the Spring Golf Tournament. We are certain to have many potential new members that will more than likely sign anything you present them once they have spent time on the course and the 19th Tee.

If this sounds like the challenge for you then please connect with our chapter Director of Membership & Retention, Shahpoor Khosravi, and you are ready and reporting for duty!



Mike's Monthly Maintenance

by Mike Gallagher, MGallagher@wasocal.com

That's What Happens When You Assume (or, yet another Commissioning Fairy Tale)

I woke with my wife kicking me again. At least, I think it was again. At 1:00 am I wake slowly, and my grasp of reality is tenuous. I'm really not sure how many times I got kicked.

"Your phone is ringing."

The phone was in the next room and the door was shut. I am a true child of the disco era, and many decades later my wife's hearing is much better than mine. She is also a lighter sleeper.

The call was from our office engineer whose turn it was to be the afterhours on call office person that week, and it related to an afterhours service call that was frustrating one of our service technicians. A tenant with two small server rooms (each with a new 5 ton water source heat pump) was in the process of occupying their new space and the scheduled IT on-line transfer to the new facility & servers was at 1:00 am. We had been called a few hours earlier when it became apparent that one of the rooms had no cooling (the other was working just fine). It was now 1:00 am, the IT guy was wetting his pants, and the room was not cooling.

Slowly I extracted the back story based upon what our tech and office person had been told by the general contractor's field superintendent (who had placed the initial call to our office). Apparently one of our start-up techs had been directed to do a preliminary start-up 3 weeks before. If I were cynical, I would suspect that this was so the general contractor could make a progress billing, but that is not germane to the story. The two identical rooms/units got the same treatment. Apparently there were no condensate lines run yet, so our start-up tech set up his ladder, added a little PVC piping and used

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a bucket to perform a quick start-up. Some useful things were accomplished during the start-up visit; electrical power was confirmed to be correct, supply fan rotation was correct, condenser water was verified, and the units were started and ran briefly. In the mind of the GC, the units were started up and everything was good for the tenant occupation. Of course, nobody told us that the tenant would need cooling on a specific Saturday at 1:00 am, or thought to coordinate a follow up trip with our office. Perhaps it was the GC's first server room rodeo. So when one of the units wouldn't run, we got one of those late night calls. And a frantic IT guy who wanted to yell and behave like a GC who had failed to add value.

The tech had reported that this new unit would start OK, but that head pressure would rise steadily for about 2-3 minutes, then the unit would trip on high pressure. He had repeated the process with the same result twice. He also checked the identical unit serving the adjacent room, which was operating OK. Our office person had already shared back and forth with the tech the usual suspects in a case like this. Do we have water flow? Yes. What kind of temperature difference did we have with the inlet and outlet water? *Small; had not stayed on line long enough to measure it, but the old "hand on each line" method said it was not the sort of high temperature difference that you would expect with a flow restriction...though maybe the leaving water line had not had time to warm up much.* Did you trace the condenser water piping to see if there were any closed valves or other obvious issues? Yes. Was amp draw in the right ballpark based on the nameplate? Yes. Any airflow issues? *No blockages; seemed normal.* My foggy brain was still not at its height of creativity, so as I called the two guys back

Mike's Monthly Maintenance

and forth over the next hour, we slowly figured out where we stood and developed a plan to move forward. The tech would disconnect the discharge hose and empty it into his bucket, timing how long it took to fill the 5 gallon bucket half way. The math would be done and we would estimate the gpm. That would confirm flow to that point in the system one way or the other (and he told me that there were no visible closed valves or other potential restrictions in the return water line from that point to the main), so at least we could cross that off our list for sure. We would also use the Pete's plugs and measure water temperature as further confirmation. If nothing further was found, I told him to call me back...by that time there wasn't much danger of my going back to sleep any time soon.

I finally nodded off about an hour and a half later, just in time to miss his text, telling me that the problem was solved and to call him in the morning (but not too early; he needed some sleep). When I spoke with him later that morning, he told me that he had confirmed water flow and temperature difference, and then finally stepped back from being frustrated long enough to start over again from the beginning. His gauges had been showing him all along that the head pressure rose as the unit did its job. Condenser heat rejection was not the problem. What was left?? To paraphrase Sherlock Holmes... when all of the probable causes were eliminated, whatever remained, no matter how unlikely, had to be the source of the problem. Could the unit be overcharged (bear in mind that the unit was charged at the factory)? He removed some refrigerant and suddenly everything was fine. He observed the unit making a steady 54-53 F leaving temperature for 25 minutes and called it a night.

The above story happened one weekend in February. I've condensed the details down a bit, but the order of events is correct.

On the first day of my Thermodynamics class in 1978, my professor started the class by writing on the chalk board (in caps) the word ASSUME. Then he added some spaces and underlined portions thus: ASS U ME. The lesson, which I'm sure you've all heard before, is that, "When you assume, you make an Ass out of You and Me." All three of us at 1:00

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am assumed that the AC units had both worked fine during the start-up 3 weeks earlier. But...and this is critical...those two 5 ton units were serving tiny rooms with no computer equipment installed yet. There was essentially *no load*. The compressor probably did not stay on line long enough to trip... room temperature probably was satisfied almost instantly. We also assumed that the two AC units were completely identical. After all, they looked the same, they were purchased at the same time from the same vendor, and their nameplates said the same thing (shoot, by that standard you could say that we had it *in writing*!!). The serial numbers were even close to sequential. If you are old enough, you will recall the days when if it was written on green computer paper it *had* to be right, and our logic to this point had followed that pattern. Finally, we made yet another assumption. We were so conditioned to the idea that the factory refrigerant charge would be correct, the possibility that it wasn't never even crossed our radar screens. And with an adjacent identical unit operating correctly, *the possibility that one would be charged correctly and the other would not just did not compute*.

Advice is always easier to give than receive, and even harder to apply. But several lessons cry out from my night of lost sleep. They include: First, while there may be valid reasons to do an initial, no load start-up, you really have not fully done the job unless the system has been operated under load. Second, virtually every small tenant server room is going to share a lot in common with this one, and the IT guys tell me that scheduling a switchover in the wee hours of the morning is commonplace. Third, we should have explained this to the GC at the time that he requested the initial start-up. There is no guarantee that he would have understood or even cared, but we should have made the effort. And finally, never assume that the factory has properly charged an AC unit, particularly when your pressure gauges are begging you to draw the proper conclusion.

When you assume, you make an ass out of you and me. Will I ever fully learn that lesson?

As always, please let me know if any questions or comments. 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



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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Chapter (if known):

Rey Ong
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). 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 **Shahpoor Khosravi** by email at Shahpoor.Khosravi@p2sinc.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)

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business card.**

Contact Sol*Air editor for details.
solair.editor@gmail.com

**Get Your Ad in BOTH SOL*AIR
and the Chapter Website!**

Job Postings: \$150 per half page

Business Cards: \$150 per year / \$50 per month

solair.editor@gmail.com

2022–2023 Board of Governors and Chairs

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Past President	Barnabas Path	(657) 413-7715	geza.barnabas.path@jci.com
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Director of Membership and Retention	Shahpoor Khosravi	(301) 529-2742	shahpoor.khosravi@parsons.com
Membership Promotion			
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Reception Chair	Jeff Atlas	(661) 428-4607	aspenews@gmail.com
Raffle Chair	Shahpoor Khosravi	(301) 529-2742	shahpoor.khosravi@p2sinc.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
Young Engineers in ASHRAE (YEA) Chair	Bobby Nasafi	(949) 294-7475	bobirnasafi@gmail.com
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Investment Fund Chair	Phil Trafton	(818) 266-5742	pmtrafton@dfda1.com
Audit Chair	Omar Rojas	(213) 373-4822	orojas@siglerscom
PAOE Chair			
Golf Tournament Chair	Joey Jiron	(562) 360-4588	joeyjiron@aol.com
INVESTMENT FUNDS COMMITTEE			
Member, Chair	Phil Trafton	(818) 266-5742	pmtrafton@dfda1.com

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