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November Meeting

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Affecting Building Harmonics

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2019-2020 Officers,

Directors, and Chairs

NOVEMBER MEETING

Tuesday, November 5, 2019 5:30 - 9:00 PM

Theme: Membership Promotion

Presentation: Mechanical Equipment Variable Loads
Affecting Building Harmonics

Speaker:

Ian Wallace: Chief Engineer, Director of Application Engineering - TCI

Marco Cabibbo, PE, LEED AP: Engineering Group Leader - P2S

JJ Dai, PhD, PE, SIEE: Global Account Manager - Eaton

John Jansen, PE, LEED AP: District Application Engineer - Eaton



AGENDA:

5:30 - Social Hour

6:40 - Announcements & Dinner

7:00 - Main Program

8:45 - Adjourn

COST: Chapter Members/Non-Members

Pre-registered: \$75/\$85, Students are free!

At Meeting Cost: \$85/\$95

Student Sponsor: \$75 per person

LOCATION:

Proud Bird

11022 Aviation Blvd.
Los Angeles, CA 90045

DINNER CHOICES:

Buffet Style

UPCOMING EVENTS

USGBC-LA Quarterly Thought Leadership Series

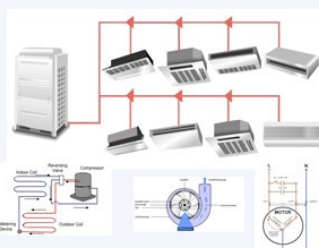
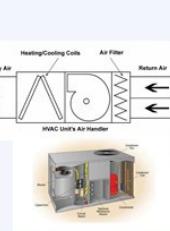
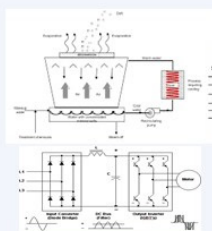
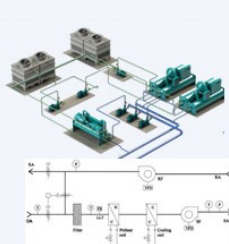
Session Three - Indoor Air Quality

Rafi Karim - Director of Chapter Technology Transfer and
Sustainability - will be speaking on the panel!

November 7th, 2019 - 5:30 to 8:00 PM

Gensler's Red Zone - 500 S Figueroa St, Los Angeles, CA 90071

Speaker Biography



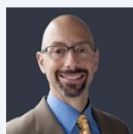
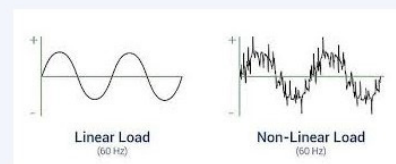
Mechanical Equipment Variable Loads Affecting Building Harmonics

Marco Cabibbo, PE, LEED AP, Engineering Group Leader-P2S

JJ Dai, PhD, PE, SIEEE, Global Account Manager- Eaton

John Jansen, PE, LEED AP, District Application Engineer- Eaton

Ian Wallace, Chief Engineer, Director of Application Engineering- TCI



Marco Cabibo, PE, LEED AP

Senior Electrical Engineer and Engineer Group Leader-P2S

Panel Moderator

Marco Cabibbo is an electrical engineer specializing in industrial power systems and instrumentation, and control system design. His 30+ years of experience in the electrical industry began as an electrician and includes construction, research, design, engineering, construction administration, and project management for an extensive range of facilities including water/wastewater treatment plants, petrochemical refineries, bulk loading plants, motion picture studios, health care and educational facilities.

He is a graduate of Cal Poly Pomona University where he attained his BSEE with an emphasis in Power Systems and a graduate of Cal State Long Beach where he attained his MSEE and completed his thesis on Medium Voltage Induction Motors and Adjustable Speed Drives.

Marco strives to deliver top-tier projects through close collaboration with project stakeholders and equipment manufacturers as well as his extensive field experience in construction, troubleshooting, maintenance and repair. He is a PE, electrician and licensed electrical contractor, certified Grade 2 water treatment and water distribution system operator, and real-time power utility systems operator.

In addition to conducting arc-flash safety training to his clients, Marco has recently begun conducting qualified electrical worker training based on NFPA 70E, including training on medium voltage switching procedures.

Speaker Biography (cont...)

John Jansen, PE, LEED AP

Southern California District Application Engineer-Eaton
Introduction to Motors, VFD Theory, and Harmonics

Mr. Jansen is presently the District Application Engineer in Southern California responsible for providing consulting and advisory support, regarding the application of Eaton's products and services to a diverse number of market segments. Mr. Jansen has 40 years of experience, with the first 18 years working in various operations management and engineering assignments with Westinghouse Electric Corporation. Mr. Jansen has spent the last 22 years working for Eaton Corporation. Mr. Jansen held various regional and national management assignments within Eaton's Electrical Service and Systems Business Unit. Mr. Jansen has a BSEE from New Jersey Institute of Technology, a BA degree in Physics from Dordt College, holds a professional engineer license, in the State of California, is a senior member of IEEE, and is a LEED AP.

JJ Dai, PhD, PE, SIEEE

Global Account Manager-Eaton
Industrial and Commercial Power System Harmonic Studies

JJ Dai (SIEEE) received his BS, MS, PhD all in electrical engineering. He was a senior VP with ETAP for twenty-one years, engineering service director with Eaton APAC for five years, and currently serves as Global Account Manager with Eaton Oil & Gas. He has been actively involved in several IEEE standard committees and IAS subcommittees. He is the co-chair of IEEE 3002.8 standard working committee for IEEE Recommended Practice for Conducting Harmonic Studies and Analysis of Industrial and Commercial Power Systems. He is a registered professional engineering in California.

Ian Wallace

Chief Engineer and Director of Application Engineering-TCI
Harmonics and Harmonic Solutions in HVAC Systems

Ian Wallace is TCI's Chief Engineer for Power Quality Solutions and Director of Application Engineering. In 7+ years at TCI, Ian has also had roles as a Manager of R&D and as a Senior Principal Engineer focusing on technology and product development for active and passive filters. Ian has over 30 years' experience in the electrical power industry, developing power electronic products and leading engineering teams in a wide variety of markets, including industrial active filters, motor drives, renewable energy converters, uninterruptible power supplies and electric ship propulsion. Ian received his B.S. in Electrical Engineering from Penn State and his M.S. in Electrical Engineering from the University of Wisconsin, Madison specializing in power conversion and controls. He has spent his working career in other industrial power electronic companies in Wisconsin – SoftSwitching Technologies, Eaton's Innovation Center and DRS Technologies.

ASHRAE Meeting Calendar

December 10, 2019

Theme: SoCal-Orange Tri-County Chapters

Joint Meeting

Presentation: Holistic Thinking for Multidisciplinary Design Solutions

Speakers: Erin McConahey

Location: Downey Energy Resource Center



January 7, 2020

Theme: Controls

Presentation: The Future of Intelligent Building Controls

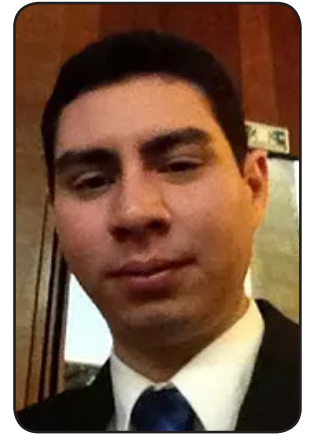
Speakers: Samy Arbid - Western Allied
Rick Fellows - Johnson Controls
Chris Miller - Engineer/Owner

Location: Taix French Restaurant

President's Message

Dear ASHRAE SoCal,

We had positive feedback on our October 1st meeting “How to Avoid Employment Litigation”. Eric Sohlgren, partner at Payne & Fears, focused on the following “Top 10 Mistakes Employers Make”: Improper classification of employees; failure to ensure non-exempt employees are taking meal breaks and rest periods; failure to annually update employee handbook and human resource policies; lack of honest and regular feedback about employee job performance; lack of documentation about job performance deficiencies; failure to train managers; failure to prevent, promptly investigate and correct allegations of workplace misconduct; failure to obtain a release in exchange for severance pay; lack of creativity about resolving employee disputes; treating employees unfairly or with lack of respect.



For the November 5th meeting, we will be hosting an ASHRAE-IEEE joint session on Mechanical Equipment Building Loads Affecting Building Harmonics. We will have a consulting engineer panel moderator, application engineer introducing our chapters to the topic, a co-author of IEEE 519 as the harmonic studies specialist, and a harmonic filter manufacturer as the filtration and case study specialist.

As a reminder, ASHRAE's November meetings take place at the Proud Bird. The December meeting will be at the SoCal Energy Resource Center in Downey, Tuesday, December 10. And, for January 7th, our chapter will be returning to the Taix French Restaurant.

I would like to thank the IEEE LA Coastal section for co-hosting with ASHRAE SoCal. Please reach out to your chapter officers, chairs, and board members with feedback on events. And, remember to support and volunteer to make the change you'd like to see in our industry.

Thank you,
Nick Rosner, P.E.
ASHRAE SoCal President 2019-2020

PEOPLE, PROCESS, PERFORMANCE

The Power of Mentorship

Ricson O. Chude, P.E.

What is the power of mentorship and why should HVAC&R professionals take note for themselves and their companies?

To begin answering that question, we must first define what mentorship in its most basic form.

Many of us at some point in our lives have gained from the help of a more experienced colleague or manager to achieve a particular task. Knowingly or unknowingly that person acted to us as a mentor.

Mentoring is often defined as the relationship in which an experienced person (the mentor) assists in developing specific skills and knowledge that will advance a person's (the mentee) professional and personal growth. Specific to the business environment, mentors serve as coaches, facilitators, challengers, and supporters that guide a person new to their role, function or task to fulfill their desired objectives.

This relationship is undoubtedly impactful for the accelerated growth of the mentee as they are able to overcome roadblocks such as – lack of information, company politics, limited staff, and new comer syndrome. However it's important to note that there is an intrinsic value that mentors will gain from unselfishly serving in that capacity.

According to many organizations and resources on the topic, mentors, often share that upon working with mentees they experienced increased levels of work satisfaction, gained insights from the relationship, felt a sense of purpose, and established a loyal colleague within the company.

So what's in it for the business?

According to *Mentoring Matters*, beyond the clear benefits of accelerated growth, purpose and influence, mentoring programs are of significance to companies for the following reasons:

Mentoring has a powerful attraction for prospective employees. In the day an age where websites like LinkedIn, Glassdoor, Blind and other resources provide insights into company structure, pay and culture - prospective employees are conducting more sophisticated job searches and are likely to ask more critical questions to assess what they will gain both short-term and long-term in working for your company. Offering a planned approach to their career development, such as a corporate mentoring program, has become a "must-have" for organizations that want to attract top talent.

Mentoring helps retain and develop talent within a company. To avoid falling in a revolving door predicament, after investing in recruiting top talent, companies must go one step further and ensure their employees are developed. Missing this key steps will not only affect the work environment but ultimately impact the bottom line by reducing the number of available resources to get the job done cost effectively. Lastly, companies with undeveloped talent are at the highest risk of seeing their workforce "picked up" from recruiters hired by local industry competitors.

ROC-SOLID LEADERSHIP

Mentoring extends and assures preservation of company knowledge. Linking employees with valuable knowledge and information to other employees in need of such information does two things – it increases performance and preserves company knowledge and wisdom gained from long-term employees.

Now, it's important to note that while formal mentoring programs are very successful, they may not be ideal for everyone. Often times, informal mentoring can achieve similar or greater results. Some of the key differences between formal and informal mentoring include:

1. **FORMATION:** Deliberate vs. Natural
2. **GOALS:** Defined vs. Unknown
3. **PAIRINGS:** Selected by the Program vs. Self Selection by Mentees
4. **OUTCOME:** Required reports/assessments vs Informal feedback/advice
5. **DURATION:** Definitive (6-12 months) vs. Undefined
6. **MEETINGS:** Scheduled vs. Ad-Hoc
7. **RELATIONSHIP:** Professional vs. Personal

Lastly, one must never forget that the team members themselves can be agents of growth and learning. A company culture where employees willingly share skills and knowledge is the most sustainable form of mentorship.

I hope you can unlock and benefit from the power of mentorship.

Best and Better,

Ricson O. Chude, P.E.

ASHRAE SoCal Past President (2018-19)

For any questions on the topic please email roc.solid.leadership@gmail.com

Follow @ROCLEaders for leadership quotes, content and advice.

References & Resources:

Bungay Stanier, M. - "The Coaching Habit: Say Less, Ask More & Change the Way You Lead Forever"

Labin, J. – Mentoring Programs That Work

Maxwell, J. – "Mentoring 101: What Every Leader Needs to Know"

Management Mentors - <https://www.management-mentors.com>

ROC-SOLID LEADERSHIP



Mike's Monthly Maintenance

by Mike Gallagher, MGallagher@wasocal.com

Pump Replacement

This month is short but sweet. Let's talk about pump life, efficiency and rebuild vs. replacement decisions. I have looked hard at several of these opportunities and drew some conclusions based upon current economics. But first, let's all get on the same page regarding jargon.

A pump rebuild typically includes new bearings and seals, as well as a rotating balance. If a pump has a coupling between a physically separate pump and motor, I refer to it as a "flex coupled" pump. On the other hand, if the motor shaft extends into the pump and has the impeller mounted directly on the motor shaft, it is "close coupled". For most manufacturers, either approach uses the same impeller when the pumps are of the end suction type. When a close coupled pump is being rebuilt, the rebuild also typically includes either new bearings and brushes for the motor, or a whole new motor. In general, a flex coupled pump starts to become similar in first cost to a close coupled pump at about 15 HP.

Pumps from the turn of the century (Y2K) and earlier often are efficiency dogs, relative to today's pumps. It is not unusual to find that while an older selection might be in the low- to upper 60% efficiency range, a new pump under the same conditions would show on the pump curve to be in the mid- to upper 70% range. An efficiency difference of more than 10% is not at all unusual. The motors involved have also improved in efficiency. A 5% difference between the standard motor of 20 years ago and today's typical motor is again not unusual. Finally, the housing and labyrinths of the pump itself wear with time and erosion. This is particularly true for open loop (condenser water) pumps. The lifetime impact of

sand and debris on erosion is significant. Even closed loop applications, however, experience erosion within the pump body. The result, as you would expect, is a loss of efficiency. The net result for efficiency difference between a new, well selected pump and a 15-20 year old pump is typically anywhere between 15% - 25%. And that doesn't even count the fact that the original pump was probably selected at more head than is really needed. When replacing a pump, you are in a position to actually measure the head being produced...so why would you simply select the pump at the original design conditions? When you add in the change in head, it is hard not to be in the 25% energy improvement ballpark, and sometimes quite a bit more.

So what does that mean with regard to replacement vs. rebuild economics?

As I said, I looked hard at two 10 HP applications. Both were 24/7 applications (one was a chilled water application, the other a closed loop condenser water application). To make a long story short, both could be replaced with a simple payback of a little over 4 years. But since the pump noise made it clear in both cases that a bearing was failing, that wasn't a fair comparison. Instead, we looked at the simple payback of the added cost of a replacement over a rebuild. And that payback period was in the 2 - 2.5 year range for both.

There was another factor. If you wait until you can hear the bearing starting to fail, then you really don't know for sure how long the pump/motor will last. Sometimes a loud bearing goes 4 weeks; sometimes it goes 4 months or more. This is relevant, because

Mike's Monthly Maintenance (cont...)

a pump can typically be removed, rebuilt and reinstalled within the same week. New pumps, on the other hand, often take 4 – 6 weeks to get. In short, if you wait until a bearing starts to fail in order to make a decision, then you had better make your choice quickly if you prefer to get a new pump.

One more thought. Many, if not most, pump applications today use a VFD. In many situations this removes the need for a balancing valve. If you are looking at a multiple pump situation, a pump replacement is a GOLDEN opportunity to get rid of the triple duty valve and simply go with a check valve and isolation valve. The space savings makes a smooth discharge easier to arrange (after all, you are going to be re-piping anyway), and the reduced pressure drop is just one more energy savings opportunity.

If you haven't followed pump developments over the past decade, you may not be aware of the potential for savings...but the potential is big. And in any 24/7 application, it may be hard to turn down a pump replacement if the existing pumps are more than 10-15 years old.

Let me know if you have any comments!

MGallagher@wasocal.com.

ASHRAE SoCal Chapter 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

Click or Copy/Paste the following link on your browser:

<https://www.ashrae.org/standards-research--technology/ashrae-rp>

Invest in the 2014-15 RP Campaign

[Online Contribution Form](#)

Thank You!

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)

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

(Honor Roll level contributions listed in ASHRAE's October Journal Issue start at \$100.00 for individuals and \$150.00 for companies.)

Payment Method (Note - all fields are required)

Charge my gift to:

Name as Appears On Card:

Credit Card Type:

Credit/Charge Card Number:

Expiration Date:

Select the radio button for ASHRAE Research

Support YEA, the General Funds or Scholarship

Notice this is a total of the different areas RP Investor supports

If you have any questions please feel free to send an email to the RP Chair to socal.ashrae.rp@gmail.com

Membership Corner



Membership Promotion

By Carter Chappell -
Membership Chair

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 **Carter Chappell** at cchappell@icidualcool.com

HAVE YOU PAID YOUR MEMBERSHIP DUES?

Even though you December 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 By Andres Palomino - Membership Chair

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)

Government Affairs Committee (GAC)

California Legislature Passes Energy Efficiency Measures

On September 13 the California Legislature recessed for the year; before concluding, legislators sent several energy efficiency measures to Governor Gavin Newsom. These bills include AB 1232, concerning energy efficiency and affordable housing, and AB 684, concerning electric vehicle charging infrastructure. AB 1232 would require the Department of Community Services and Development to coordinate with the California Energy Commission and the State Department of Public Health's Office of Health Equity to develop best practices for the Energy Efficiency Low-Income Weatherization Program and establish annual targets for statewide energy efficiency savings from the program. Meanwhile, AB 684 would require the Department of Housing and Community Development to develop building standards regarding the installation of future electric vehicle charging infrastructure for commercial and multifamily residential buildings. Both bills are expected to be signed by the governor.

Ninth Circuit Court Rules in Favor of Energy-Efficiency Standards

The Ninth Circuit Court has ruled the Trump administration cannot indefinitely freeze energy-efficiency standards that could cut carbon emissions and save billions of dollars in energy costs. Eleven states, two cities and four environmental and consumer groups sued Energy Secretary Rick Perry in 2017, claiming the department shirked its duty to publish four final efficiency standard rules. The standards apply to HVAC&R equipment including air conditioners, walk-in coolers and freezers, and commercial boilers. -www.courthousenews.com

ANNOUNCEMENTS

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 !

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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
(Honor Roll level contributions listed in ASHRAE's October Journal Issue start at \$100.00 for individuals and \$250.00 for companies.)

Payment Method (Note - all fields are required)

Charge my gift to:
Name as Appears On Card:
Credit Card Type:
Credit/Charge Card Number:
Expiration Date:

By completing this transaction, you agree to ASHRAE's Privacy Policy

Contributor Information Fields in red are required

Donor Name (Individual / Company to be Recognized):
ID # (if known):
Chapter (if known):

Frank Schwamborn
frank.schwamborn@p2sinc.com

REMEMBER: All donations to ASHRAE are tax-deductable!

Job Opportunities

Southern California Edison

Senior Project Manager - Building Electrification

Rosemead, CA US



[LINK TO JOB PAGE](#)

- Responsible for managing the development and delivery of projects/programs to further SCE's BE goals by directing the innovative design, evaluation, analysis, demonstration, implementation, and satisfaction of regulatory requirements of projects/programs.
- Provide management and strategic direction to a cross functional project team and is responsible for the project/program development, budget, and schedule.
- Provide direction and make strategic decisions regarding changing project/program scope, policy, development, and implementation. Establish goals, negotiates, and develops project plans.
- Be the primary technical leader for a broad area of knowledge around BE.
- Identify and manage resolution of unusually complex issues related to BE. Issues typically require innovative solutions.
- Lead the development of strategic plans and objectives for the organization.
- Act as a key consultant to senior management.
- Develop and maintain relationships/represents the Company with external stakeholders, such as the CPUC, CEC, CARB, environmental groups, industry organizations, manufacturers, contractors and other supply chain actors, implementers, customers and other stakeholders in order to communicate SCE's strategic initiatives and its industry trajectories.

Society Headlines

October 2019
Contact: Sherri Simmons
ssimmons@duffey.com
404-446-1660

ASHRAE Learning Institute Offers Training in Europe

ATLANTA (Oct. 8, 2019) – ASHRAE Learning Institute (ALI) has released its schedule of instructor-led training in Europe, including its HVAC Design Level I and Level II courses.

“The greatest challenge facing engineering firms and building owners is maintaining a workforce that understands the fundamentals of HVAC design and that is current with the application of new technologies,” said Stephen Comstock, ASHRAE’s manager of business development EMEA. “ASHRAE’s HVAC design courses provide practical design knowledge to young engineers, to engineers who have transitioned to positions and to experienced engineers who would benefit from an understanding of how new technologies rest on traditional design fundamentals.”

Also, on the schedule is a data center design course that will be presented for the first time. Data Center and IT Equipment Design Guidance from ASHRAE TC 9.9 for Engineers, IT Professionals and Facility Staff examines the required operational changes to data centers to achieve the maximum efficiency within the ASHRAE environmental envelopes of relative humidity, temperature and IT equipment power.

In all, four courses will be presented in three European cities.

HVAC Design: Level I – Essentials

This three-day training provides an understanding of the fundamentals of HVAC design and knowledge that can be put to immediate use. The course speeds the transition of recent university graduates to effective practitioners that are able to meet real-world design challenges and acquaints experienced engineers with technologies to minimize energy consumption, meet current standards and improve building occupant comfort.

[18-20 November, Dublin, Ireland](#)
[25-27 November, London \(Hatfield\), UK](#)

HVAC Design: Level II – Applications

This two-day training is tailored for engineers with advanced experience in the HVAC design field, or those who have completed HVAC Design: Level I – Essentials. Like Level I, it is developed and presented by industry-leading professionals. The training provides advanced information that allows practicing engineers and designers an opportunity to expand their exposure to HVAC systems design procedures for a better understanding of system options available today to save energy.

[21-22 November, Lisbon, Portugal](#)

Data Center and IT Equipment Design Guidance from ASHRAE TC 9.9 for Engineers, IT Professional and Facility Staff

This full day course presents the opportunities to save energy in data centers that are based on an understanding of equipment trends, performance measurements, and effectiveness that are critical to the principal objective: Data Integrity. The course is developed and presented by ASHRAE Technical Committee 9.9, the source of data center guidelines used throughout Europe.

[20 November, Lisbon, Portugal](#)

For further information and to register, visit ashrae.org/hvactraining.

ASHRAE Recognizes 2019 LowDown Showdown Modeling Challenge Teams

ATLANTA (Oct. 9, 2019) – ASHRAE recognized the [2019 LowDown Showdown](#) modeling competition teams. The competition was held in conjunction with the 2019 ASHRAE Building Performance Analysis Conference, Sept. 27-29 in Denver, Colo.

The ASHRAE LowDown Showdown engages architects, engineers, designers and energy modelers by working on integrated teams in the creation of effective workflow and outstanding design in real-world building efficiency challenges.

“The competition not only challenged teams to achieve near net-zero, but also to include design and modeling elements to create a resilient building capable of withstanding natural disasters and providing prolonged emergency operations,” said Annie Marston, competition chair.

This year’s model building was a 90,000 square foot city hall (new construction) located in San Diego, Calif. The project involved designing a facility that is meant to be a multi-functional building, housing many of the cities vital public services including being an Emergency Operations Center in times of disaster or crisis.

Teams were evaluated in six categories:

Energy use, Teamwork, Innovative approach, Creativity, Workflow, Presentation

First place and fan favorite were awarded to C.R.E.A.M. (Carbon Rules Everything Around Me) for a proposed city hall that can maintain operations for 14 days during a utility outage to coordinate emergency responses while maintaining critical functions like prisoner life safety and security. During an event, the building will transition to a setback mode, minimizing energy consumption by relaxing thermal comfort targets. Building systems will then draw energy from a 10,000 kWh battery system & 427 KW PV array for power and 10 kgal potable & 20 kgal non-potable water storage tanks.

Other teams presenting their results are as follows:

Highway to Sustainability – This second place team designed a new city hall with a 3-story atrium to provide ample space for green walls, skylight and natural breeze. The project included a spacious semi-outdoor area for fitness activities and the deployment of EnergyBox, an in-house web platform which speeds up design exploration by automating processes and encouraging collaboration by effective visualization.

Operation ReSHED – The team’s project included elevated walkways to surrounding critical government buildings for quick access to the Emergency Operations Center residing inside the new city hall. The vertically massed city hall was would be designed not only to transform the skyline, but creates opportunities for resiliency against forecasted disasters, increasing energy efficiency during the regular operation and to provide a safe and healthy environment for the occupants.

Parametric Posse – The team incorporated parametric modeling to replace design assumptions made with data-driven simulations to achieve a holistic design that exceeds technical requirements, leverages passive strategies, and supports use during emergency situations. Using both proprietary and open-source software for the parametric modeling, the base digital model allowed for interface with energy, daylighting, and climate analysis tools.

Ulti-Performance – The team’s project included assembling an integrated team using a variety of design tools to achieve a net positive building designed for comfort, using dynamic glazing, natural ventilation, and a green roof outdoor amenity.

esilience features included underground water cistern, PV and battery storage.

The results were announced at a reception during the conference. See complete project overviews, including team posters on the [2019 ASHRAE LowDown Showdown Modeling Challenge results webpage](#).

The 6th annual LowDown Showdown Competition will take place at the 2020 Building Performance Analysis Conference and SimBuild co-organized by ASHRAE and IBPSA-USA in Chicago.

About ASHRAE

Founded in 1894, ASHRAE is a global professional society committed to serve humanity by advancing the arts and sciences of heating ventilation, air conditioning, refrigeration and their allied fields. As an industry leader in [research](#), [standards writing](#), [publishing](#), [certification](#) and [continuing education](#), ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries. For more information and to stay up-to-date on ASHRAE, visit ashrae.org and connect on [LinkedIn](#), [Facebook](#), [Twitter](#) and [YouTube](#).

Find more ASHRAE news at
<https://www.ashrae.org/about/news/2019/>

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