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

## OCTOBER MEETING

Tuesday, October 6, 2020 11:30 AM - 1:00 PM

**Presentation:** Air Cleaning and Airborne Infectious  
Diseases

**Speaker:**

Marwa Zaatari, PhD - Chief Science Officer, Blue Box Air



**TIME:** 11:30am - 1:00pm

**COST:** Chapter Members/Non-Members

**Meeting Cost:** \$25/\$30, Students are free!

**LOCATION:**

Web Meeting

## UPCOMING EVENTS

AEE SoCal Annual Conference

October 21-23, 2020 - CEUs Available!

See the Announcements page for more details.

**AEE SoCal 2020  
Annual Conference**



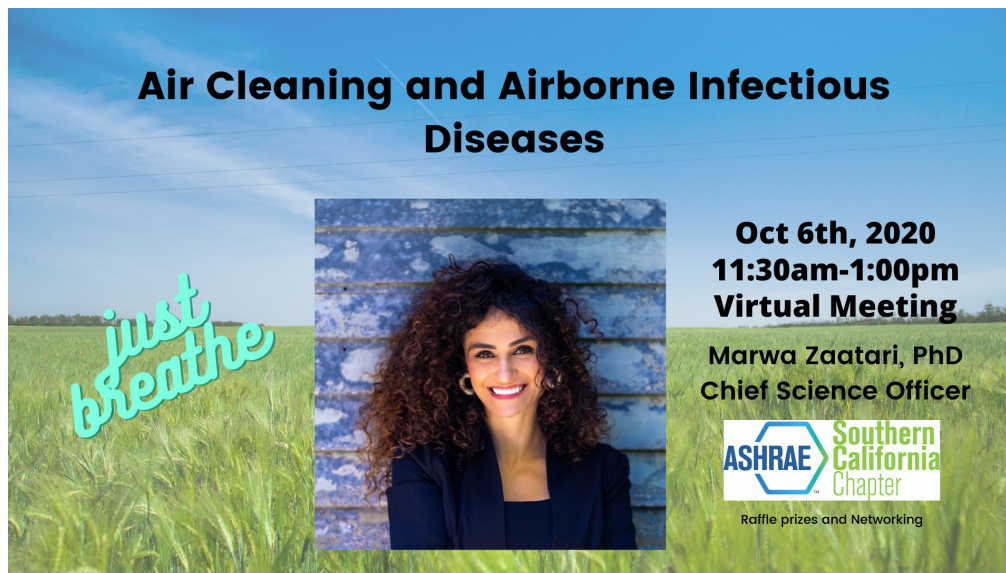
**Advancing California's  
Energy and Climate Goals**

Virtual Event  
October 21-23, 2020

**REGISTRATION  
NOW OPEN!**

[aeesocal.org/annual-conference](http://aeesocal.org/annual-conference)

# Speaker Biography



This lecture provides an overview of air cleaning to minimize infectious diseases spread using ASHRAE COVID-19 filtration and disinfection framework. How to select particulate filters, air cleaners, and how to determine coil cleaning frequency and design considerations with respect to pressure drop, efficiency for different particulate size, by-pass, clean air delivery rate, and by-products will be reviewed. Different approaches using one or combination of control methods will be compared from energy and indoor air quality impact.

## **Marwa Zaatari, PhD** Chief Science Officer Blue Box Air

Dr. Marwa Zaatari is Chief Science Officer at Blue Box Air. She leads the research of “Air as a Service” around heat exchanger coils, filters, and IAQ measurements to design and operate buildings for optimal energy and people efficiency.

Dr. Zaatari has extensive experience in identifying and quantifying the sources, fate, and transport of indoor air pollutants, building energy and environmental management, assessing performance-based procedures of HVAC ventilation and air cleaning, and developing and applying models for energy efficiency, indoor air quality, exposure assessment, and economic impacts of indoor air pollution.

Prior to joining Blue Box Air, Dr. Zaatari was Vice President of Building Solutions at enVerid Systems since 2015. She lead design of ventilation and filtration/sorption systems in buildings, integration into HVAC systems, and was responsible for managing customer-site installation and ongoing operations and field service.

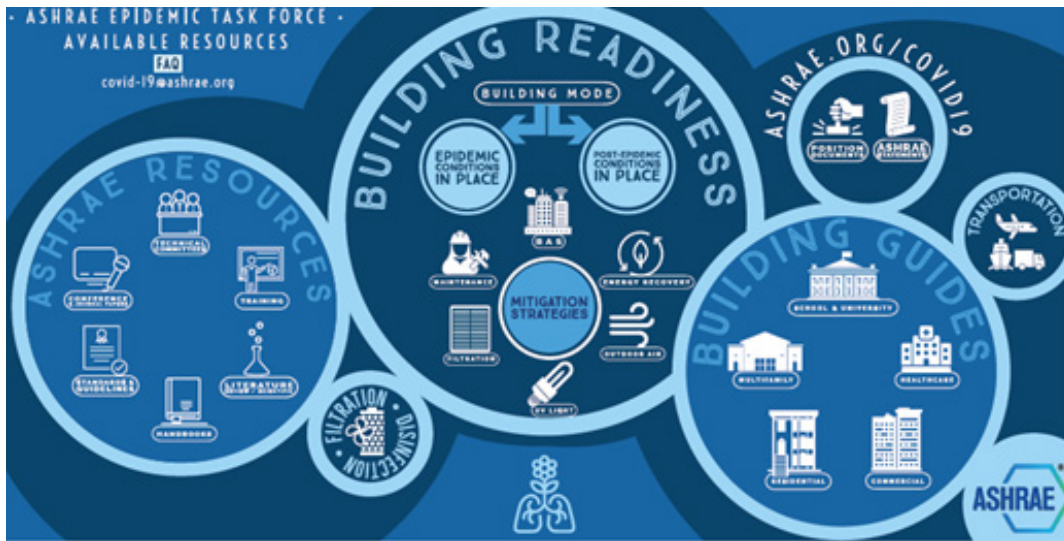
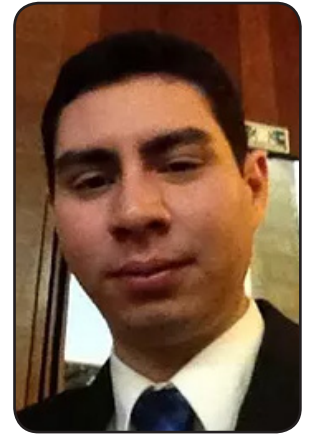
Dr. Zaatari earned a PhD in Architectural and Environmental Engineering from the University of Texas at Austin with a focus on the built environment and a master’s degree in engineering management from The American University of Beirut, Lebanon with a focus on energy management.

Dr. Zaatari is an ASHRAE Distinguished Lecturer and a member of several ASHRAE Committees, voting member of Standard 62.1, Chair for TRG4 Indoor Air Quality Procedure, Vice Chair of MTG.HWBE Health and Wellness in the built environment, Vice Chair of TC2.3 gaseous removal contaminants, Voting Member Standard 145.2 laboratory test method for gas-phase air cleaning systems, IAQ2020 Conference organizer, LEED Committee member, and ex-Chair of LEED IAQP Working Group.

# President's Message

Dear ASHRAE SoCal,

Thank you for joining our virtual meeting last month on “Refrigerant Update: The Next Transition Has Begun” by Steve Kujak, Director, Next Generation Refrigerant Search at TRANE Technologies. We had over 65 participants attending. I encourage you to join our next meeting this Tuesday, October 6 on the important and timely topic “Air Cleaning and Airborne Infectious Diseases”, presented by Dr. Marwa Zataari, Chief Science Officer at Blue Box Air. Further building readiness, reopening and ASHRAE resources can be found online at <https://www.ashrae.org/technical-resources/resources>. The ASHRAE Epidemic Task Force infographic found online provides a helpful guide to our organization's support resources.



ASHRAE is an organization providing a “healthy and sustainable built environment for all.” As we start reopening buildings, assisting kids who are going back to school virtually, and engaging in important social topics, I’d like to thank our members and volunteers for continuing to grow ASHRAE during this unprecedented year. ASHRAE SoCal is an organization dedicated to our local HVAC&R community. Please connect with your fellow chapter members, chairs, and officers to gather COVID-19 resources, stay in touch, or for a helping hand or reference through this year that has been difficult for many.

I am proud of the remote networking and efforts from our students, members, and volunteers. Our chapter has persisted in providing relevant programs, opportunities to connect, and giving back to our students and ASHRAE. I am confident our local HVAC&R industry, with our adaptability and determination, will continue developing while improving society.

Proudly serving you,

Nick Rosner  
2020-2021  
ASHRAE SoCal President

# President-Elect's Message

## "Programs? I Don't Need No Stinkin' Programs!"

Wrong! Could not be more wrong.

Your ASHRAE SoCal Chapter has always prided itself on its programs providing members depth of information across many facets of our industry, from technically deep dives to a thesis on engineering ethics. The engineering and technical tools required by our industry spans environmentally focus issues of sustainability, chemical and physics properties of refrigerants, airflow and its impact on comfort and safety, commissioning as a feedback tool for both owners and operators, and literally scores of other themes.

Your Chapter Technology Transfer Committee has a great lineup planned for the coming year. We have already had the highly successful Refrigeration program in September and a fascinating and timely Air Quality program for this Tuesday. Added to this is our remaining lineup:

- Nov 3, 2020 "Air Handling Systems for Hospitals" – Davis Schurk
- Dec 1, 2020 "ASHRAE's Response to the Covid Pandemic" - Charles E. Gullledge III
- Jan 5, 2021 "Building Automation System Master Planning - Take Control of Your Facility's Future" - Jim Vallort
- Feb 2, 2021 "Upgrading Existing Chilled Water Systems" – Panel Discussion moderated by Mike Gallagher
- Mar 2, 2021 "Health as a Building Performance Metric" – Stephanie Taylor, M.D., M. Arch, CIC
- Apr 6, 2021 "What Should Drive the Sustainability Bus - Indoor Environmental Quality or Energy?" – Robert Bean
- May 4, 2021 "Student Designs & Scholarship Awards Presentations"
- Jun 15, 2021 "Installation of Board of Governors & Banquet"

Sharing our knowledge of technology, business, interpersonal relations, and our general love of a good time is what ASHRAE is all about. We are looking for a few more SOCal members to help us with our program planning activities for this year's as well as preparing for 2021-22. If you would like to be on the leading edge of what we do then drop me, or our CTTC Director, Roman Verba, a note indicating your willingness to be exploited, I mean, top help.

Roman Verba, romanverba@gmail.com  
Barnabas Path, bpath@laair.net, bpath@pathenergy.com





# Mike's Monthly Maintenance

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

## Of Wildfire, Covid and Indoor Air Quality

When I heard last winter that ASHRAE was putting together a committee to write a guideline for building occupant smoke protection during wildfire conditions, because of personal history I was eager to join. I grew up in an Eastern Washington farm community that during my childhood was the Kentucky Bluegrass capitol of the world. As you may know, acres are plotted from a plan view; vertically; and as a result, the steeply undulating Palouse hills have much more surface area in an acre than a flat topography can produce. That, and over 100' of topsoil in some areas, means that the yield/acre eclipses most of the rest of the world (for virtually every dry land farm crop), and my little town was ground zero in grass seed production. The thing about grass fields, though, is that in order to have a big crop next year, you have to burn the fields every fall after harvest. Grass is genetically programmed, like many plants, to come back strong after a fire. In my town, that meant a week or two late every summer with the sort of smoke that you've been seeing on TV. And every kid who did farm work in high school (including me) learned to fight field fires (whether deliberate or accidental), generally with older fire trucks, built to be relatively agile on 1.5 and 2 ton truck bodies. By the 1980's, enough people from California had moved to Spokane to bury the county in lawsuits, and it soon became illegal to burn fields in Spokane county. The entire state of WA then followed as the urban western part of the state took over land policy. Wild fires, however, continued. My brother has made a career in the WA Dept of Natural Resources, where during fire season he currently serves as a dozer boss. If you've followed the news at all, you know that the entire west coast has been through an unprecedented fire

season. Climate change pretty much assures that this will continue. When my brother and I compare notes about forested areas we knew while growing up, it is apparent that they are all at much greater risk for fires now than they were 40-50 years ago. Wildfire smoke is nothing new...my childhood is an example. But a combination of forest wildfire policy, drier climatic conditions and urban encroachment into wildfire prone areas has produced a situation where, *while we may not have massive wildfires every year, they will be common enough in the future that HVAC design and operation need to include provisions for smoke conditions.* Like climate change, this is reality. And engineers deal with reality.

We've discussed Covid and its HVAC reality, also.

I was on a conference call this week for GPC (Guideline Project Committee) 44, *Protecting Building Occupants from Smoke During Wildfire and Prescribed Burn Events*. The conversation confirmed for me that many of the things that we have already been doing from an HVAC perspective for Covid dovetail nicely into wildfire measures. Filtration of recirculated air with better MERV rated filters is obvious. Filtration of outside air being introduced to the building is probably a much bigger deal in wildfire conditions, where you would like to achieve some positive pressurization with filtered air. That got me thinking of the now ubiquitous VRF (variable refrigerant flow) systems and their DOAS (dedicated outdoor air system) components...and during a wildfire, the ability to both reduce and significantly filter outside air with a DOAS. The opportunity to include control logic that would control DOAS air delivery specifically to attain a small amount of positive

# Mike's Monthly Maintenance (cont...)

building pressure during a wildfire emergency should be a pretty simple thing to do. Under Covid conditions we've been trying to increase outside air quantities, to dilute the airborne build-up of viruses in occupied spaces. So perhaps attention needs to be given to both outside air extremes. If we are going to be able to avoid completely closing off outside air during wildfire, better filtration capability where outside air is introduced will be necessary. Perhaps the days of the washable metal outside air filters will finally be gone? Both outside air hoods and economizer packages from packaged unit manufacturers have been woefully unable to provide good filtration. Perhaps this will spur improvement options? We developed centrifugal exhaust fans for economizer operation in small rooftop units in the Los Angeles market in 1990. We can be the first to develop better filtration options for outside air hoods and economizers, as well. Another similarity between Covid and wildfire smoke is the need to reduce airborne particulate matter within occupied spaces. The same bi-polar ionization technology that was developed in part for cigarette smoke and which has been used to remove air particles for Covid to use for "piggy back" transmission would seem to be a natural application for wildfire smoke. Portable air cleaners located in the space are another option that would help for both wildfire smoke and virus control.

I have no idea where the GPC 44 committee will end up going with the guideline, but it is hard to imagine that it won't include a lot of suggestions regarding outside air management. Because high MERV rated air filters bring with them some outside air pressure drop, we may need a more sophisticated approach to introducing and filtering outside air on EVERY project. We may need better recirculated air filtration, as well. We may need portable or even permanent in-room air cleaners under some circumstances. Rooftop unit economizers may have to be interlocked with room thermostats, such that an "unoccupied" mode can be programmed at the thermostat with a reasonable room temperature, but with economizers closed back to minimum (unoccupied) outside air settings...I thank a friend (also on the guideline committee) from Montana for

making that suggestion. Certainly, I could foresee school districts and other large users of packaged units wanting to see better designs for minimizing smoke.

You may have ideas regarding wildfire design or operation. I'd welcome talking with you about it, if so.

Finally, both Covid and wildfire smoke have re-invigorated conversations about indoor air quality. I've never been fully sure how to evaluate indoor air quality; there are so many ways to look at it, from temperature to humidity to air movement to airborne particulate to the chemicals in the air; but the presence of a virus that seems to spread almost as much through the air as through touch, and of smoke that I thought we'd gotten rid of when tobacco was moved outdoors, has put more new parameters into the conversation.

We are engineers. We learn, we quantify, we fiddle around, and ultimately we develop practical solutions. Lately it has been hard to develop practical solutions ahead of the speed of political agendas, but we have to try. Our world needs what HVAC engineers can bring to the table. If you think this is the last pandemic you will see, you are far more optimistic than I. If you think wildfire smoke will be an unusual novelty in the future, you are living in some world other than western North America. As we used to say 50 years ago, "if you are not a part of the solution, then you are a part of the problem."

As always, I look forward to hearing your thoughts.  
[mgallagher@wasocal.com](mailto: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
1711-RP	1.04	160,000	Advanced Sequences of Operation for HVAC Systems – Phase II Central Plants and Hydronic Systems	TAYLOR ENGINEERING - Alameda, CA
1778-RP	5.1	198,940	Testing and Evaluation of Ozone Removal Air Cleaning Devices for Improving IAQ	FRONTIER ENERGY INC - San Ramon, CA
1801-RP	1.05	105,000	Standardizing and Utilizing ASHRAE Online BIM Data Exchange Protocols	Hitchcock Consulting - Lincoln, CA

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

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**Manny Castro**  
[mcthreadot1@gmail.com](mailto:mcthreadot1@gmail.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 Nelson Echeverry at [nelson@dfda1.com](mailto:nelson@dfda1.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))

# Announcements



## AEE SoCal Annual Conference

AEE SoCal Annual Conference: Advancing California's Energy and Climate Goals  
October 21-23, 2020  
CEUs Available

Our biggest annual event is now online to enjoy from wherever you are!

Attendees referred by ASHRAE can register at a 20% discount. Simply enter ASHRAE in the Promo Code box at [registration](#).

Join participants from across the energy sector to learn and share about important trends and challenges in the rapidly changing California energy landscape. Presentations from leaders in our clean energy economy including CARB, CPUC, Center for Sustainable Energy, CPower, LLNL, SCAQMD, SoCalGas, SCE, UC Irvine, and many more, make this a must-attend event for anyone interested in California's energy future.

Hosted on the award-winning platform Whova, the conference will have pre-event engagement, real-time Q&A and networking with other attendees, and virtual exhibitor booths. This is a fantastic opportunity for professionals, students, and all with an interest in energy to connect.

### [Sponsorship Opportunities Are Available](#)

For further information visit: [aeesocal.org/annual-conference](https://aeesocal.org/annual-conference), email: [conference@aeesocal.org](mailto:conference@aeesocal.org) or call Monika Cornelius at 877-483-6642.

AEE SoCal: Building Connections Beyond Engineering. Energy | Sustainability | Education | Networking  
AEE SoCal is a Section 501 (c) (3) nonprofit organization.

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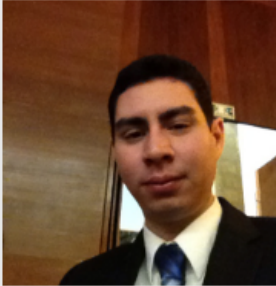
**Business Cards: \$150 per year / \$50 per month**

[solair.editor@gmail.com](mailto:solair.editor@gmail.com)

# 2020-2021 Board of Directors Intro

## PRESIDENT

Nick Rosner



Nicolas Rosner is a Variable Frequency Drive-Lead Sales Engineer at Eaton. Nick's VFD focus at Eaton is consulting engineer specifying support, contractor service, facilities training, and distributor sales in CA, HI, and AZ. Prior to Eaton, Nick spent 8 years of his HVAC career at USAir Conditioning Distributors in both Southern California and Arizona. Nick Rosner is a licensed Mechanical Professional Engineer (CA & AZ). He holds a B.S. in Electrical Engineering from the California Polytechnic State University, San Luis Obispo. And, Nick has held officer and chair positions at Southern California, Central Arizona, and Tri-County ASHRAE chapters.

## PRESIDENT-ELECT

Barnabas Path



Barnabas is an energy consultant working with K12, University, Municipal, and Special District customers advising on strategic energy positioning as well as evaluating energy performance at portfolio, site, and operator levels. Barnabas is currently a project manager for Los Angeles Air Conditioning; has owned an HVAC contracting business; designed, built, operated, and maintained a micro-turbine co-generation plant; supported a District Energy plant, and; has been in sales with many ESCO's including Honeywell, Siemens, and Johnson Controls. Barnabas is the past Chapter Technology Transfer Director, has been the ASHRAE Sustainability Chair. Barnabas received a B.S. in Mechanical Engineering Technology from Cal Poly Pomona.



# 2020-2021 Board of Directors Intro

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## TREASURER

Treasurer

Sierra Spitulski



Sierra Spitulski is a Mechanical Engineer at P2S Inc, a consulting firm in Long Beach, where she specializes in the HVAC design for hospitals and healthcare buildings. She is a licensed Mechanical Professional Engineer in California, a LEED Green Associate, and earned a B.S. in Mechanical Engineering and minors in math and physics from Fresno State, as well her M.S. in Mechanical and Aerospace Engineering from UC Davis. Sierra served as the first Women in ASHRAE Chair for ASHRAE SoCal during the 2018-2019 term, hosted a very successful joint networking event, and is excited to (hopefully) continue her outreach and involvement in the chapter.

# 2020-2021 Board of Directors Intro

## DIRECTOR OF MEMBERSHIP & RETENTION

Nelson Echeverry



Nelson Echeverry is senior mechanical engineer at Donald F Dickerson Associates, with experience in high-rise residential design. He has previously served as YEA Chair and CTTC Chair for ASHRAE SoCal. He holds a BS in Mechanical Engineering with a concentration in HVAC&R from California Polytechnic State University San Luis Obispo

## DIRECTOR OF STUDENT ACTIVITIES, YEA, & HISTORIAN

Carlos Ruiz



Graduated from Cal Poly Pomona in 2015 with a Bachelors Degree in Mechanical Engineering. My last two years at Cal Poly Pomona, served as President of ASHRAE's Student Chapter and led the Senior Project team for the ASHRAE Student Design Competition. Since then, I have had a close connection to the student chapter and the members. In my four years of being a professional, I have continued to have a strong presence at Cal Poly Pomona, in specific with ASHRAE. I have mentored one or two teams a year for the ASHRAE Student Design Competition. I have served as a mentor for other teams in other universities such as UCLA and Cal State Northridge. There is nothing more rewarding to me than to take in a small part of students interest in ASHRAE and in our industry. I am a strong believer in being accessible to our community and future engineers and to spread the ASHRAE philosophy to the youth – "Shaping Tomorrow's Built Environment Today" My goal is to spread this connection to other universities and help strengthen the connection of ASHRAE philosophies with the Young Professionals.

# 2020-2021 Board of Directors Intro

## DIRECTOR OF PUBLIC RELATIONS & CORRESPONDENCE

Eric Melendez



Eric Melendez has been working as a Junior Mechanical Engineer for the past 3 years with Budlong & Associates, a multi-disciplinary engineering design firm providing mechanical, electrical and plumbing engineering services (MEP), as well as project managing various industrial facility projects. Eric volunteered to support the SoCal chapter in his first year with ASHRAE; Eric has been serving as this year's Young Engineers in ASHRAE ("YEA") Chair. Eric Graduated from Cal State Northridge in 2016 with a B.S in Mechanical Engineering.

## DIRECTOR OF CTTC & SUSTAINABILITY

Roman Verba



Roman is a Mechanical Engineer at LAX where in the last 12 years he represented the airport in commissioning of the large renovation projects, including Tom Bradley International, Terminals 5 & 6, Central Utilities Plant, and others. Roman is responsible for generating and maintaining airport commissioning specifications, OPRs and Basis of Design. Roman has been participating in all phases of the construction, from the conceptual design to the commissioning and activation. Roman has been working closely with engineering consultants, contractors and agencies having jurisdiction. Roman is QCxP.

# 2020-2021 Board of Governors and Chairs

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