

FOG DISPENSER



FEBRUARY 2016 LUNCH MEETING

MAIN PROGRAM: SFPUC NON-POTABLE WATER PROGRAM

SPEAKER: PAULA KEHOE, Director of Water Resources,
San Francisco Public Utilities Commission



Paula Kehoe is the Director of Water Resources for the San Francisco Public Utilities Commission (SFPUC). She is responsible for diversifying San Francisco's local water supply portfolio through the development and implementation of conservation, groundwater, and recycled water programs. Paula spearheaded the landmark legislation allowing for the collection, treatment, and use of alternate water sources in buildings and districts within San Francisco. Previously, she worked as the Assistant to the General Manager of the SFPUC and supported the utility's \$4.6 billion capital improvement program designed to rebuild and repair the third largest water delivery system in California. As Public Education

Director for the SFPUC's Water Pollution Prevention Program, Paula received six state and national awards. Paula holds a BA from the University of Colorado, Boulder and a MS from the University of San Francisco.

PRESENTATION SUMMARY

In 2012, the San Francisco Public Utilities Commission (SFPUC) launched their Non-potable Water Program to allow buildings to install onsite water systems for the collection and treatment of alternate water sources, including stormwater, graywater, blackwater, rainwater, and foundation drainage for non-potable reuse. In San Francisco, individual buildings and/or districts collecting and treating alternate water sources are also eligible for grants from the SFPUC. In 2015, a new city ordinance was established requiring new buildings in San Francisco of 250,000 square feet or more to be constructed using alternate water sources for toilet flushing and irrigation.

INSIDE THIS ISSUE:

Event Calendar.....	2	Research Promotion.....	7
President's message	3	Job Announcements	8
Historian Article.....	4	Announcements	9
CTTC.....	5	January Meeting Recap.....	10
Student Activities	5	Board and Chair Members	11
Membership Promotion	6	Ad Page and Ad Rates.....	12

FEBRUARY 11, 2016
11:30 AM TO 1:30 PM

PACIFIC ENERGY CENTER
851 HOWARD STREET
SAN FRANCISCO, CA 94103

AGENDA:

11:30 am
Registration & Social Hour
12:00 noon
Lunch, Announcements
and Introductions
12:30 pm Main Program
1:30 pm Adjourn

DIRECTIONS:

<http://www.pge.com/mybusiness/edusafety/training/pec/admin/directions.shtml>

COST:

GG ASHRAE Members:

Before 5pm, Feb. 8 \$40
After 5pm, Feb. 8 \$50

Non-Members:

Before 5pm, Feb. 8 \$50
After 5pm, Feb. 8 \$55

Students/Voucher Holder
Free, but please register

GOLDEN GATE ASHRAE
FOG DISPENSER
VOLUME L12- NUMBER 5
FEBRUARY 2016 COVER

EVENT CALENDAR 2016

FIND DETAILS AT GGASHRAE.ORG

■ THURSDAY, FEBRUARY 11, 11:30AM – 1:30PM

LOCATION: San Francisco, Pacific Energy Center

TOPIC: Water Conservation topic

SPEAKER: Paula Kehoe

■ THURSDAY, MARCH 10, 5:30PM – 8:30PM

Joint meeting with Redwood Empire

LOCATION: San Rafael, Four Points Sheraton

TOPIC: Radiant Slab Systems Research Update:
Effect of Acoustical Canopies on Chilled Ceiling
Performance

SPEAKER: Fred Bauman and Caroline Karmann, UC Berkeley

■ THURSDAY, APRIL 14, 5:30PM – 8:30PM

LOCATION: Oakland, Scott's Seafood

TOPIC: Using Embedded Tube Radiant Cooling Systems to Maximize LEED Points

SPEAKER: Devin Abellon, P.E

■ THURSDAY, MAY 12, 5:30PM – 8:30PM

LOCATION: PG&E Pacific Energy Center

TOPIC: Awards and Product Show

■ THURSDAY, JUNE 9, 5:30PM – 8:30PM

LOCATION: Oakland, Scott's Seafood

TOPIC: Cool Thermal Energy Storage in the Era of Sustainability

SPEAKER: Bill Bahnfleth



NOT SO OLD Farts Announcement:

Calling all GGASHRAE members who have been around for awhile (subject to your own interpretation)

Come to the April GGASHRAE meeting and bring these three things:

1. A slide rule to show them youngster what it looks like!
2. A 30 Second "I will never do that again story" to share at self introduction with the young engineers that you have been not met!
3. Mandatory have some fun with your long lost GGASHARE buddies.

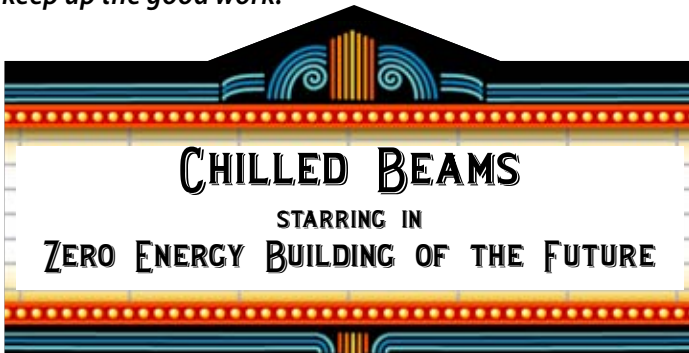
NO uses of "OLD"... Just Youngsters.... Thank You.

OLD FART Ben Sun

It's in the Details

This is my fifth president's message, and I've made it all this way without geeking on energy efficiency. I'm an energy geek. I've spent the last 25 years of my working life focused on building energy efficiency. Now it's time to get my geek on...

One thing I've learned is that it's in the details. If our buildings were movies, then I'm talking about the dialog, the timing, the sound track, the camera work. I'm not talking about the names on the marquee. They might attract our attention, but they don't guarantee a great movie. Let's keep up the good work!



Since most of us are engineers, let's start with a focus on the architects (ha!) and all the details they can get wrong. Don't worry, architect friends, we'll get to the engineers in a moment.

Thermal bridging, we all know about that problem, right? We know R-300 Wonderfoam ain't R-300 in a steel framing system. And quadruple-paned super windows aren't so super unless we address the framing details. Amazing (and potentially expensive) superstar technologies can be wasted if we don't get the details right. (Hmm, and maybe we can craft a great building with no-name products if we get the little stuff right? Sundance award winner?)

Window shading is a pet peeve, so here's your rant warning. If we want overhangs and light shelves to be more than just expensive bling, then let's get the details right. The sun does not care that your general intention is to prevent glare and unwanted heat gain by blocking direct solar radiation from entering the space. The sun cares about the details. So let's use models to check that we've got the windows covered! (End of this rant).

Okay if I sneak in lighting? Don't want the electrical folks to feel left out. Lighting control details are a big deal and a big opportunity. Daylighting-control horror stories abound. And maybe you've had a frustrating motion sensor experience. If we get the details right – specified, installed, commissioned – then big savings are available.

Alright HVAC people, now it's your turn. You think the architect's stuff is important? Well, a good job with your HVAC details can turn a straight-to-DVD project into a box-office winner.

Choosing a star HVAC system might be the right strategy for your building. It may be that radiant cooling is a great choice. Chilled beams can also be great in the right role. Displacement ventilation too. But in my experience we can do pretty well with some of the old standards, as long as we get the details right.

Let's take our old friend VAV reheat. And let's say we size the air handler appropriately for low pressure drop through the coils and filters. We size the ducts and carefully detail the fittings to minimize pressure loss. We size the VAV boxes – not too big, not too small – to provide control over the full range of airflow required for each zone (especially the minimum flow, which is where it will operate much of the time). You get the idea.

Are we done with the details? Ready to walk the red carpet and collect our golden statuette? Well, at this point you might say that we've built the sets, hired the actors, set up the lighting and cameras. But we're missing the script. Oops! And we still need the director.

Controls! The most important detail. If you're a movie producer, do you feel comfortable approving a project without a script? So if you're an HVAC designer, should you feel comfortable leaving details of the sequence of operations for someone else to develop?

Back to our VAV reheat friend. If we're clever about how we reset the supply air temperature, adjust the supply duct static pressure, control the economizer, and control the VAV dampers, then big savings are available. And we really want to pay attention to our minimum airflow set points for the VAV boxes. If they are higher than necessary, then we waste fan energy, cooling energy, and reheat energy. A lose-lose-lose situation! This figure gives an example of potential savings if we get the details right.

Source: Murphy, John, "High-Performance VAV Systems", ASHRAE Journal, October 2011.

Here's some good reading about VAV reheat details:

- See the Advanced VAV System Design Guide. [https://energydesign-resources.com/resources/publications/design-guidelines/design-guidelines-advanced-variable-air-volume-\(vav\)-systems.aspx](https://energydesign-resources.com/resources/publications/design-guidelines/design-guidelines-advanced-variable-air-volume-(vav)-systems.aspx)
- A bunch of articles from the folks at Taylor Engineering: <http://www.taylor-engineering.com/articles>

So how do we produce a box-office success? Here's what I say... Let's recognize the power in the details. Let's find joy in the crafting of a good design. Let's make details sexy. Whether we choose a superstar system or an old standby, it's all in the details.

Erik Kolderup

2015-2016 President, ASHRAE Golden Gate



FEBRUARY – 2016

Tom Gilbertson, Chapter Historian

Trading on Dr. Max Sherman's January 2016 Golden Gate's program presentation of the history of ventilation....makes for an interesting subject of where we came from...and where we are going....

Presently, I tend to think that we have become somewhat sophisticated in how the building codes demand, among other items...ventilation rates...and how the occupancy calculations are described.... However...it appears that our industry of "HVAC".....with heavy emphasis on the "V" for Ventilation..... has long addressed the subject of codes and standards.....particularly "ventilation".

I was surprised to read the 1936 State of Wisconsin Industrial Commission document that mandated just about everything that we have in our codes, today.

The document stipulated occupancy density for virtually every class of use...the document defined "ventilation"...it addressed "air-cleaning"... "flow rates"... "acoustics"..... "air drafts" and "occupancy temperatures" for every range of use. Additionally it divided the State in to three Temperature Zones...Zone 1 where the heating design was -42 F...Zone 2 where the heating design was -34 F...and the balmy area in Zone 3 where the winter design was -24 F....(No mention of Summer Design Conditions....but remember this was in 1936...)

Additionally the document identified three classes of refrigerant based on safety, as well as specifically outlawing a fourth group that were expressively prohibited, do to flammability...."Water" was acknowledged to be a safe refrigerant...as it is increasingly looked upon today!



Flammable refrigerants had been historically used, so in 1936 the State deemed it necessary to address the issue...and stop the use of flammable refrigerants....The building codes at work...protecting the public!

Flammable refrigerants are very effective!...I'll share with you an "historical method" of how to use gasoline as a refrigerant....Place 100 to 120 cans of warm beer in a 30 gallon galvanized G. I. can.....like the Army uses. Next, add 5 to 6 gallons of automotive gasoline. Then, using the 50 foot air hose that comes with the compressor...connect the air hose to the compressor storage tank... (WITH THE ENGINE OFF!)...and insert the hose so that it "bubbles" through the gasoline. Regulate the air flow from a globe valve located at the air tank. The air fed through the hose and gasoline will evaporate the gasoline very quickly, with a superior cooling effect...and exquisitely cool the beverage cans!...a word of caution...only do this "outdoors" in an uncongested area...and do not smoke in the vicinity.

Mike Scofield called me after the last meeting to remind me that "ESCMT" stood for "Engineering Societies Consortium for Manpower Training"...and he remembered, along with Steve Sprague,..... "teaching" drafting to students...for potential entry level employment in our industry. Karl Guttman, an ASHRAE Golden Gate Chapter president was pretty much the driving force behind this noble effort in the 1960's.



Alex Fung and Zeid Arnaout, co-chairs

Technology Awards

The ASHRAE Golden Gate chapter is now accepting applications for the 2016 Technology Awards and we're proud to announce the addition of a new Retro Commissioning (RCx) projects distinction for each category listed below. If you have a project and/or building in which you have participated in the design process please submit an application for your deserved recognition.

ASHRAE Technology Award applications are accepted in each of the following categories:

- I. Commercial Buildings (New, Existing, RCx)
- II. Institutional Buildings (New, Existing, RCx)
 - Educational Facilities (New, Existing, RCx)
 - Other Institutional (New, Existing, RCx)
- III. Health Care Facilities (New, Existing, RCx)
- IV. Industrial Facilities or Processes (New, Existing, RCx)
- V. Public Assembly (New, Existing, RCx)
- VI. Residential (New, Existing, RCx)

For the chapter level awards the award application is short and relatively simple to prepare. To download the application directly from the ASHRAE website, click the following link. [Chapter/Regional Application -- Short Form \(Updated June 2014\)](#)

Additional information and sample entries can be viewed and downloaded from the Technology Awards Program page here: <https://www.ashrae.org/membership--conferences/honors--awards/technology-awards-program>

Deadlines for the Golden Gate Chapter applications will be March 31st. Please do not hesitate to contact Alex Fung or Zeid Arnaout at afung@integralgroup.com, or zarnaout@integralgroup.com.

STUDENT ACTIVITIES



Anna Osborne, Student Activities Chair

2016 Scholarship Applications

The Student Activities Committee is now accepting applications for 2016 Scholarships! The Golden Gate Chapter Scholarship will range from \$500-\$2,000 and is open to anyone from high school seniors to university students who are enrolled in or plan to enroll in a related engineering or technical field. The Eric Thor Andresen Memorial Scholarship is for one \$10,000, one \$7,500, and one \$5,500 award. It is open to any student enrolled in an eligible accredited engineering or architecture program. We strongly encourage all to apply! Applications are due April 7, 2016, please email Anna Osborne at aggcstudents.com for more information.

2016 ASHRAE Summer Conference Travel Grant

We are also accepting applications for the 2016 ASHRAE Summer Conference Travel Grant. The conference is in St. Louis, MO. The grant is for 2 students at \$1,250 each. Student events include an orientation, mixer, and a student tour. Applications are due April 14th, please email Anna Osborne at aggcstudents.com for more information.

T 510.663.2070 x 2029 | D 510.457.0129 aosborne@integralgroup.com



Brian Chacon, Membership Promotion Chair

MEMBERSHIP PROMOTION COMMITTEE HELP!

Dear colleagues, I am reaching out to you in hopes of expanding the membership promotion committee. The role would include helping recruit new members to join ASHRAE and help membership retention. The time commitment would be about an hour a week. Please contact me or the other committee or board members if you are interested in participating and contributing to our local and National society. We will be happy to answer any questions you have on the responsibilities. Link to my contact information is here: <http://ggashrae.org/join.php>

APRIL MP NIGHT!

Get a free meal! If you bring a non-member to our April 14th dinner meeting dinner and they join ASHRAE by the following chapter meeting, you will get your next meeting on us! Please help us recruit new members as we continuously expand our Golden Gate community!

STUDENT SMARTSTART PROGRAM

I want to remind everyone about the great opportunity through the SmartStart student program. For \$54 year 1, \$74 year 2, and \$95 year 3, transferring students can take advantage of a reduced ASHRAE membership. If you are interested, contact me personally and we can discuss success stories and different ways students can take advantage of this opportunity!

<https://www.ashrae.org/membership--conferences/student-zone/membership-and-meetings/ashraes-smartstart-program>

WELCOME NEW MEMBERS!

We are looking forward to another successful year, let's not stop recruiting new members and keeping existing members in good membership standings; please pay your local chapter and Society dues at the same time when renewing-reminder that those two are separate fees. I would like to send a warm welcome to our newest members who have joined over the past few months. Welcome!

MEMBER:

Edwin Michael Huestis
Mr. Christopher Blackburn
Mr. Stefan Marian Gracik
Dara Sanii
James Sitzmann
Mr. David Felipe Sanabria
Ben Khuong
Arthur Norwood
Connor Schmitt
Jaya Rao

Mr. Scott Young
Mr. Chad Michael Dykeman
Mr. Raymond Young
Mr. Wei Liang
Mr. Mohan Singhal
Mr. John Stephen Kromer
Mr. Mehran Khazra
Mr. Robert C Uhl
Rick Moffat

Jason Lesser, Research Promotion Chair

2015-2016 Donors



What is the RP Campaign?

The RP Campaign is an annual fundraising campaign benefiting the funding of numerous ASHRAE Programs. These programs include:

- **ASHRAE Research**
- **ASHRAE Scholarships for undergraduate students**
- **ASHRAE Learning Institute (ALI) development of new courses & materials**
- **Graduate Research Projects (Grants-in-Aid)**
- **Young Engineers in ASHRAE (YEA) Leadership Training**
- **Permanently endowed support to all of the above programs**

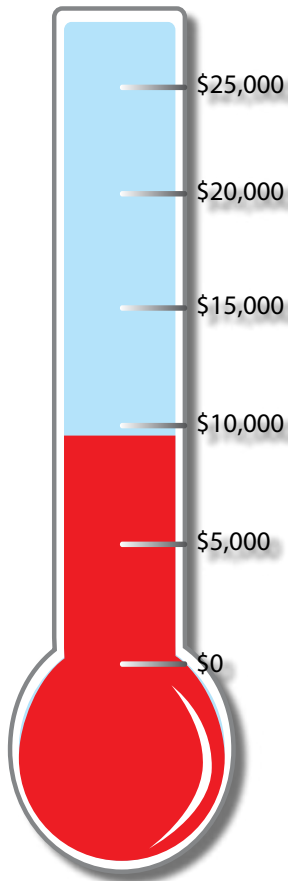
The RP Campaign is overseen by the RP Committee, a standing ASHRAE Committee. The Committee is made up of 14 Regional Vice Chairs (RVC), 1 Consultant (past RVC), 3 Vice Chairs (past Consultant), and Chair (past Vice Chair). Staff support includes a 3-member team based at ASHRAE Headquarters. The RP Campaign raises over \$2.2 million a year from over 6,000 donors. These donors are made up of ASHRAE Members, industry associations, and industry organizations.

Thanks to all who donated last year we exceeded our goal of \$26,500. This year we plan to exceed our goal of \$27,000 and we have already had some generous donors.

The Following individuals and companies have generously supported ASHRAE Research and Golden Gate Chapter for 2015-16 Campaign.

With the help of following Donors and Golden Gate Chapter Volunteers, we were able to raise the most amount of Research Funds over the last 10-years. Golden Gate Chapter received Challenge RP award at Chapter Regional Conference.

Your contributions are much appreciated. Thank you for making a difference and shaping tomorrow's built environment today.



Donors in 2015-2016:

INDIVIDUALS

\$2000 & Over

Mike Mann

\$1000 to \$1999

Glenn Friedman

\$250 to \$999

R F MacDonald Co. – Hayward
Nazzaro & Associates

INDIVIDUALS

Up to \$249

Mark H Walton
Glen R Leggoe
Carl H Jordan
Elizabeth Foster Courtney
Nikki Friedman
James G Nemechek
Zberri A Alvi

INDIVIDUALS

Up to \$249

Michelle V Dionello
Amy Allen
Gail D Brownell
Dennis W Thompson
Tyler Bradshaw, PE
Jason Lesser
Erik P Kolderup
Nikola Kravik
Jeremy Augustin Martinez
Brian Michael Chacon
Timothy Goeppner
Dick Friedman
Reginald A Monteyne
Kyle S Blocker
Corydon C Palmer
Mon J Lum
Gary L Harbison
Corydon C Palmer

Donations are tax deductible, by check, credit card or online at www.ashrae.org/contribute

Mail Checks to: ASHRAE RP: 1791 Tullie Circle,
NE: Atlanta, GA 30329

For more information, please visit Research and Promotions section on www.ggashrae.org or contact RP Chair Jason Lesser at (510) 455-0062, jlesser@ami-hvac.com

**Our goal for this year is to raise
\$27,000 for ASHRAE Research**

Contributions: \$9,141

Position Available:

**Sr. Engineering Manager
Mechanical, Gap Inc.**

Announcement: Our Store Development Team needs a Sr. Engineering/Mechanical Manager who will be the technical expert representing the engineering field, partnering with architecture, construction and maintenance. You will have the opportunity to be a leader in establishing requirements for MEP design and construction in Gap's North American fleet of stores across all brands. This job requires field experience inspecting all aspects of HVAC systems in either retail, commercial or government industries. You must be able to think on your feet and analyze a construction problem with little supervision. This is a very exciting opportunity to gain valuable exposure to all aspects of a Fortune 500, global company.

For more information or to apply, please reach out to Christie Annis at christie_annis@gap.com

Link to full job posting: <https://gapinc.referrals.select-mindscom/jobs/sr-engineering-manager-mechanical-gap-inc-18160>

Position Available: Feb. 2, 2016

**Atelier Ten
Associate Engineer**

Atelier Ten, an environmental design and building services firm, is looking for a licensed Professional Mechanical or Electrical Engineer with at least 10 years' experience and a strong background in both building services engineering and sustainable design in San Francisco. We seek an articulate, intelligent individual with a demonstrable track record for successfully coordinating and delivering projects within the public and private sector. We seek someone who can think beyond their own discipline and contributes to collaborative problem solving in a multi-disciplinary environment. The ability to lead, inspire and motivate is essential, as is the capability to facilitate real change.

Interested candidates should submit a cover letter and resume to usa.recruitment@atelierten.com.

Please reference "SF Engineer" in your subject line.
No phone calls please.

Position Available: Jan. 15, 2016

Acutherm Job Opportunity

Seeking mechanical or electrical systems designer/engineer, building automation control systems specialist, test and balance specialist, or commissioning authority to serve as Therma-Fuser VAV Diffuser Product & System Specialist.

- Understand the different product offerings to provide technical support to sales representatives, controls contractors, installers, design engineers, facilities engineers, commissioning, and end users;
- Manage process from startup through commissioning and post occupancy, providing installation and troubleshooting guidance;
- Responsible for assisting customers in implementing Acutherm products for use in DDC control systems used in commercial HVAC systems.
- Assist with product documentation, marketing literature and catalog material;
- Assist with product training sessions for new and existing sales representatives and other stakeholders;
- Provide marketing input for product revision and new product development;
- 2+ years of relevant experience. This position requires 20% or more travel, international and domestic.

Hiring Manager, Acutherm, LLC
hiring@acutherm.com

Spring 2016 HVAC Courses at UC Berkeley Extension

• *HVAC Control and Energy Management Systems: provides detailed working knowledge of the principles of selection and design of temperature controls for HVAC systems.*

DATES: 3/23/16 to 5/25/16, 6:30-9:30 pm LOCATION: San Francisco

INSTRUCTOR: Mark Hydeman

PRICE: \$795

[Click to Enroll](#)

ASHRAE Golden Gate Employer Recognition Program

I'm very grateful to local companies that support their employees by paying for ASHRAE membership and chapter meeting attendance. As a gesture of appreciation, the chapter will be recognizing these companies at chapter meetings this year. We will also include a listing in the Fog Dispenser, starting in October as we kick off our 2015-2016 activities.

If you are a grateful employee of such a company, please get in touch with our membership promotion chair, Brian Chacon, at brian.chacon@trane.com and let him know. And please provide a note from your management expressing a willingness to be recognized. If you like, send a company logo we can include in the listing.

Thank you!

Gratefully yours, Erik Kolderup, ASHRAE Golden Gate President 2015-16

Point Energy Innovations



Mazzetti



Guttman & Blaevoet



Interface Engineering



OWENS CORNING



ATI – Architects and Engineers



AEI Affiliated Engineers



American Mechanical Inc.



ACCO Engineered Systems:



Osborne Company Inc.



Trane



WSP - Parsons Brinckerhoff



MEYERS + ENGINEERS



Conservation
Mechanical
Systems, INC.



Acutherm, LLC



California Hydronics Corporation



NAZZARO and ASSOCIATES

NAZZARO and ASSOCIATES

Manufacturers' Representatives

JANUARY DINNER MEETING RECAP



Board of Governors

PRESIDENT

Erik Kolderup, P.E.
Kolderup Consulting
704 Tennessee Street
San Francisco, CA 94107
(415) 531-5198
erik@kolderupconsulting.com

PRESIDENT-ELECT

Tyler Bradshaw, P.E.
Integral Group
427 13th Street
Oakland, CA 94612
(510) 663-2070
tbradshaw@integralgroup.com

SECRETARY

Tim Goepfner
Flowtherm Systems, Inc.
2293 Tripaldi Way
Hayward, CA 94545
(510) 266-7894
tgoepfner@flowtherm.com

TREASURER

Michelle Dionello, P.E.
UCSF Medical Center – UCSF Benioff
Children's Hospital
3333 California Street, Suite 115, San
Francisco, CA 94118
(415) 353-3620
Michelle.Dionello@ucsf.edu

BOARD OF GOVERNORS

Nikola Kravik
Capital Engineering
(916) 851-3515
nkravik@capital-engineering.com

Christine Lee

Arup
560 Mission St. Suite 700
San Francisco CA 94105
(415) 963-3858
Christine.lee@arup.com

IMMEDIATE PAST-PRESIDENT

Annie Foster Courtney, P.E.
WSP
405 Howard Street, Suite 500
San Francisco, CA 94105
(415) 402-2248
Annie.Foster-Courtney@wspgroup.com

Committee Chairs

CHAPTER TECHNOLOGY TRANSFER

Alex Fung
afung@integralgroup.com
Zeid Arnaout
zarnaout@integralgroup.com

MEMBERSHIP PROMOTION

Brian Chacon
(408) 857-1065
brian.chacon@trane.com

RESOURCE PROMOTION

Jason Lesser
(925) 946-9101 x123
Jason.Lesser@ami-hvac.com

STUDENT ACTIVITIES CHAIR

Anna Osborne
(415) 489-7264
AnnaO@interfaceeng.com

HISTORIAN

Tom Gilbertson
(925) 376-4516
tomagilbertson@msn.com

YEA (Young Engineers in ASHRAE)

Alyse Sutura
(415) 489-3219
alyses@interfaceeng.com

FOUNDATION BOARD

Glenn Friedman
(510) 263-1542
gfriedman@taylor-engineering.com

PUBLICITY

William Martin
(510) 741-9100
william@conservationmechsys.com

REDWOOD EMPIRE

William Martin
(510) 741-9100
william@conservationmechsys.com

HONOR AND AWARDS

Scott Wayland
(510) 508-2244
sewayland@comcast.net

ELECTRONIC COMMUNICATIONS

Ma'ayan Bennaim
(925) 922-4866
mbennaim@sunbeltcontrols.com

GRASSROOTS GOVERNMENT ADVOCACY

Jeremy Martinez
(510) 266-7817
jmartinez@calhydro.com

A big thank you to the following sponsors for supporting publication of the Fog Dispenser.



Conservation Mechanical Systems, Inc.
Manufacturers Representatives of
Energy Conservation Products

Thomas S. Weaver, P.E. Principal

P: 510.741.9100 **C:** 707.529-3501
Tom@ConservationMechSys.com
732 Alfred Nobel Dr. Hercules, CA 94547
www.ConservationMechSys.com

Tyler Bradshaw, PE, LEED AP
Principal

p: 510.663.2070 ex. 232
m: 408.674.3918
e: tbradshaw@integralgroup.com
w: integralgroup.com

427 13th Street
Oakland, CA 94612



INTEGRAL
GROUP

David A. Nazzaro
President

NAZZARO and ASSOCIATES
Manufacturers' Representatives
Thirty Tollridge Court
San Mateo, CA 94402-3730
T: 510.867.5560 F: 650.571.5660
E: danazzaro@aol.com



Taylor Engineering
1080 Marina Village Pkwy, Suite 501 Alameda, CA 94501

Glenn Friedman, P.E.
Principal

gfriedman@taylor-engineering.com
www.taylor-engineering.com

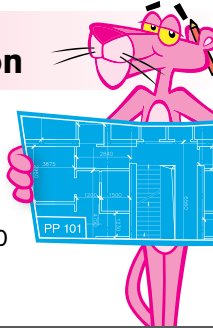
Phone: (510) 749-9135
Direct: (510) 263-1542
Fax: (510) 749-9136
Mobile: (510) 220-5895



Commercial Insulation

Joseph Joslin, RCI, CSI, CDT
Business Development Leader
AEC Solutions – West

c: 650.868.0982 o: 707.652.5340
joseph.joslin@owenscorning.com
OCBuildingSpec.com



Interior Acoustics | Building Enclosure | HVAC/Mechanical



kolderup
CONSULTING

building
energy
efficiency

Erik Kolderup, PE
LEED AP

erik@kolderupconsulting.com
www.kolderupconsulting.com
415.531.5198

ASHRAE Certified
Building Energy
Modeling Professional

SPONSORSHIP RATES:

• One time rate: \$25 • 4-month rate: \$90 (\$22.50/mo.) • Yearly Rate (9 issues): \$150 (\$16.67/mo.)

Contact the Fog Dispenser editor Tim Goeppner, tgoeppner@flowtherm.com