

FOG DISPENSER

Golden Gate Chapter



ASHRAE

VOLUME XLVII - NUMBER 2

November 2008

November Meeting Details

Date: Thursday, Nov 6, 2008

Place: PG&E Pacific Energy Center, San Francisco,
([directions](#))

Schedule:

11:30 am – 12:00 pm: Registration and social hour
12:00 pm – 12:40 pm **LUNCH** with
announcements and introductions
12:40 – 12:45 pm: Break
12:45 – 1:30 pm: Main Program
1:30 pm: Adjourn

Cost:

	<u>Before noon</u> <u>Mon., 11/03</u>	<u>After noon</u> <u>Mon., 11/03</u>
<u>ASHRAE</u> <u>members</u>	\$40	\$47
<u>Non-</u> <u>members</u>	\$47	\$50
<u>Students</u>	Free with registration	
<u>Voucher</u> <u>holder</u>	Free with registration	

Please make your reservation at
www.ggashrae.org/meetings/2008-2009/nov.htm

NOTE: If you make a reservation and cannot attend, you need to cancel in advance, or you will be billed. Tom Weaver will be taking reservations. If you need to CANCEL, please send a message to Tom at cancellation@ggashrae.org.

Solar Thermal Basics for HVAC, DHW and Zero Energy Buildings



Speaker: Josh Plaisted, PVT Solar

Josh will outline the basics of solar thermal technology for buildings in both residential & commercial applications. Applications will include traditional Solar Water Heating (SWH) systems as well as Combi-Systems that cover both water and space heating. Josh will also touch on emerging systems and applications for Zero Energy Buildings.

Before entering the solar field in 1997, Josh was a consulting mechanical engineer in the field of optical disc coatings and in-vacuum heat transfer. It was the rapid progress and cost reductions in this field that led him to believe similar opportunities might be possible in photovoltaics (PV). In 1998 he entered the Solar Energy Laboratory (SEL) at the University of Wisconsin - Madison as a researcher under Dr. William Beckman. While at the SEL Josh shifted his studies from PV to solar thermal systems. He focused his research on the thermal performance of systems installed 20+ years earlier employing computer simulation models to calibrate actual system operation and then predict performance under different scenarios.

Continued on next page

Josh graduated from UW-Madison in 2000 with a MS in Mechanical Engineering and a masters certificate in Energy Analysis & Policy from the Institute for Environmental studies. Mr. Plaisted entered the solar thermal industry in 2000 as a design engineer with SunEarth Inc. As the lead design engineer at SunEarth he was in charge of product development on items ranging from basic solar collector design to heat exchangers. Product development also included the packaging of components made by SunEarth together with other products to form complete packaged heating systems. Additional duties included the construction, setup, and upgrading of existing and new production equipment. Josh has served as an industry liaison with the Industry Association of Plumbing & Mechanical Officials (IAPMO) and sits on the board of directors for the Solar Ratings & Certification Corporation.

Minutes of October 2, 2008 Chapter Meeting

1. Location – Scotts Seafood Restaurant; Oakland, CA
2. Meeting called to order by Jeff Blaevoet at 5:30 p.m.
3. Self introductions
4. Announcements
 - a. Dean Borges, Region X Nominating Committee introduced Vice-Chairs
 - b. Jack Zarour, Region X DRC gave a remembrance of Gene Valerio
 - c. Gina Kalil, Student Activities chair welcomed Cal Maritime students and would like the membership to help get students on jobsite visits
 - d. Jeff Violet, Research Chair is encouraging donations of any size. Small amounts add up. Give what you can.
 - e. Scott Wayland announced that the November meeting topic will be on Solar Thermal
5. Scott Wayland introduced the evening speakers: Keith Forsman with PG&E, Jonathan Soper with Enovity; Dave Attard with California Hydronics, and Tom Riley with Cogent Energy
6. Marble Draw – Taylor Engineering sponsored and Jeff Blaevoet won the Marble Draw of \$500.
7. Jeff Blaevoet announced the next meeting will be a lunch meeting at PEC
8. Meeting was adjourned at approximately 8:45 PM.

Gary Harbison
GG ASHRAE Secretary

Golden Gate Chapter President's Message, November 2008



Our first meeting of the 2008/2009 season was a fascinating lesson in how to operate buildings efficiently. Our society President Bill Harrison has hit on a substantial issue for all of us involved in controlling building energy use to think about. How easy is it to squander electricity and gas because of inappropriate sequences of operation, time schedules, set points, or just plain misunderstandings? All too easy!

There are many building engineers, stationary engineers, or facility engineers who are diligent, responsible and intelligent, but don't have the necessary training or tools to enable them to make smart operational decisions for energy reduction. Is it their fault, or is it our fault?

We all have to take responsibility for reducing our unacceptable energy consumption.

Designers need to stop walking away from their projects after beneficial occupancy, and ask for data on monthly gas and electric costs. We need to compare our energy model predictions to reality and ask why they are not matching up. Did we as designers do enough to convey our design intent to the facility staff? Did we do enough to convey our design intent to the building users? Did we as contractors or vendors do enough to ensure our equipment and systems are operated properly?

Can we afford to spend the time to do that? Can we afford not to? It's more than just our fees at stake here.

Our next meeting is at lunchtime on [Thursday November 6th at the Pacific Energy Center](#). The subject is **solar thermal and its role in zero energy buildings**. If you haven't noticed, there is a huge push to produce net zero energy buildings in the near future. Can we get there through efficiency alone? Probably not – current thinking is that we should aim for 50% better than code, and make the rest up with PV's, wind, solar thermal, or other renewable energy sources.

Is that realistic? Is it economic? Can we do better? Help us all find out by coming to our next meeting. Oh, and by the way, invite a student.

Sincerely,

Jeff Blaevoet.
GGASHRAE

Meeting the Demands for Comfort

Tom Gilbertson, Chapter Historian

Historically, ASHRAE, and by ASHRAE, I mean our heating, cooling, refrigeration, and ventilation-serving industry, has simply responded to the heating and cooling demands that were presented. At least that is my recollection of many of the events.

We were presented with building envelope conditions and we simply did all of the “ $Q = h * A * U * \Delta T$ ” “magic”...sized the loads.....then picked the boilers, pumps, fans and coils, and let it go at that....putting them in the proper arrangement, of course!

Over the years we did, as an industry, start to take more of an interest in just how the heating, (and cooling) loads that were given, were arrived at.

Interest in the energy sections of Title 24 here in the State and research like the window program at Lawrence Laboratories increased our interest in just how our industry arrived at the “loads”. To be fair, ASHRAE itself did research on heat transfer so that we could evaluate the loads...but mostly their action was to take what was given to them.

Considering that residential energy consumption represents about 40% of our Nation’s total energy needs it is appropriate that as an industry we apply more of our engineering capabilities towards a thoughtful analysis of just how can the “loads” be minimized.

Historically....now we get to the “historical” part of the column...I remember when the concept of “insulation” was considered to be somewhat “new”. I grew up in a home where the winter design was -18 F...and that wood-frame house was not insulated. I remember hearing about the “wonders” of “mineral-wool” being discussed around the supper table...(We ate “dinner” at noon, and “supper” in the evening.)....so in 1939, I acquired a whole series of 3-inch diameter wooden wheels for all of my “construction/building” experiments...this was because when they insulated our existing wood-frame house, they “peeled-back” a length of wood siding and drilled, with a hole saw, the sheathing so that the “mineral-wool” could be “blown” into the existing wall cavity. Thus we “upgraded” to an “insulated” house....all 600 sq ft of it.

We ended up with U-factors in the range of 0.50....but outside walls that the wind could pretty much come right through....the concept of “envelop tightness” had not yet reached us.

Look at how much energy this Country, and Canada, have wasted by trying to “heat” all of the poorly insulated houses!....So what can we do about this...rather than just “solve” the heat transfer equation, and size equipment? (I realize the Title 24’s energy sections have driven us to be better stewards of our energy consumption.)

One item that deserves attention, and encouragement, is the use “insulated-concrete-forms”. Make that “**ICF**”; the fastest growing method of residential wall construction.

This building system, “**ICF**”, produces wall sections that have U-factors in the range of $U = 0.02$...or an R-50...and even higher. Additionally, this type of construction has a thermal storage feature than makes the walls seem to operate as though they have an R-value of as high as R-100. The infiltration rate for this type of wall is nearly “zero”.

If we had been building, or were building now, residential construction that employed ICF construction for the walls of houses, the total energy use for heating and cooling of buildings could be reduced typically as much as 40%!....Now, what would that do to this Country’s energy consumption and the balance of payments?

Check this out...type in “**ICF**”...or “insulated-concrete-forms” into one of the search engines, and see what you come up with. Just maybe 70 years from now someone will applaud you for what you might have done to reduce energy consumption....and they can write a history column for some ASHRAE chapter.

Student Activities

Gina Kalil, Student Activities Chair

Travel Grants!!!

The deadline for travel grant is December 1st!!!! We hope students will take the opportunity to attend the ASHRAE winter meeting and expand their knowledge of and dedication to the ASHRAE community.

Scholarships and Science Fair!!!

The deadline for submitting for scholarships is March 25th!

The science fair date this year is March 16-20th and we will be recognizing students whose projects relate to our industry! Go see this fair if you can – it is great!

We will recognize the scholarship winners and science fair winners at our May meeting so plan to be there!

Any questions please contact Gina Kalil at gina.kalil@jci.com.

Thanks!!

It is that time of the year to GIVE BACK!
And by giving back you will be helping to grow a better future.

DO YOU HAVE....
ONE HOUR
OF FREE TIME YOU CAN SPARE IN
YOUR WEEK?!

Give back to the students!!!

Email: gina.kalil@jci.com

Marble Draw

Annie Foster

Thanks to Taylor Engineering for sponsoring October's Marble Draw. Jeff Blaevoet won the \$500 pot! The pot for the November meeting is \$500, and the odds are 1 in 9, so be ready to buy your raffle tickets! We are always in need of raffle sponsors. If you would like to donate a prize for a future meeting, please contact Annie Foster at 415-402-2248 or annie.foster@wspfk.com.

Chapter Technology Transfer Committee (CTTC)

Tyler Bradshaw, ASHRAE Golden Gate CTT Committee Chair

2008/2009 Technology Awards

The Technology Transfer Committee would like to encourage all members to consider participating in the Technology Awards this year. **Entries must be submitted by February 28th 2009.**

There are three stages of competition and awards: Chapter, Region and Society. The first step in this process is to submit your project to the chapter level competition.

First place winners from the Chapter competition move onto the Region X Award Competition. Then the Regional first place winners are eligible to move onto the Society competition.

Every year ASHRAE conducts the Technology Awards program to:

- Recognize ASHRAE members who design and/or conceive innovative technological concepts that are proven through actual operating data;
- Communicate innovative systems designs to other ASHRAE members;
- Highlight technological achievements of ASHRAE to others, including associated professionals and societies worldwide, as well as building and facility owners.

Each year Society presents awards in some of the thirteen categories: Commercial Buildings (New and Existing); Institutional Buildings (New and Existing); Health Care Facilities (New and Existing); Industrial Facilities or Processes (New and Existing); Public Assembly Facilities (New and Existing); Residential Buildings (New and Existing) both single family and multifamily (Low & High Rise); Alternative or Renewable Energy Use.

For each category a first, second, and honorable mention winner may be named. Also, one of the category first place winners may be selected to receive the ASHRAE Award of Engineering Excellence. The recipient will have demonstrated the best overall compliance with the judging criteria.

Society's bar is set pretty high for the awards as indicated in the very short list of awards from the last few years.

The submitted project should be completed and occupied for one year by the due date for the Society award application - September 2009. Therefore, your project should have been occupied by September 2008. By that time there should be good measurement and verification data available. The one year of occupancy is not a requirement for the Chapter award but it is a strong suggestion. This is a requirement for the Society award competition.

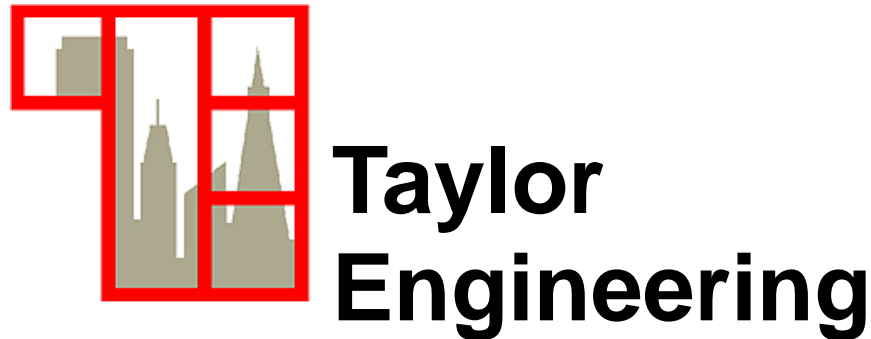
Please see our CTTC website or the following links for more info.

<http://www.ashrae.org/publications/detail/14703> <http://www.ashrae.org/publications/detail/14704>
<http://www.ashrae.org/publications/detail/14692> <http://xp20.ashrae.org/STANDCOM/ShortForm.pdf>

Join the CTTC Committee

If you like to assist the chapter and get involved with ASHRAE, the Chapter Technology Transfer Committee is one of the best places and we could use your help. Talk to a board member or contact Tyler Bradshaw at tbradshaw@rumseyengineers.com.

Announcements



HVAC, Plumbing and Fire Sprinkler Systems Design

1080 Marina Village Parkway, Suite 501
Alameda, CA 94501
(t) 510.749.9135
(f) 510.749.9136

Contact: Glenn Friedman
gfriedman@taylor-engineering.com
www.taylor-engineering.com

Job Posting

Mechanical Engineer Wanted at Taylor Engineering

Job Description:

Design HVAC systems and controls, for commercial buildings using CAD tools. Perform load calculations and energy analysis. Analyze building mechanical system operation data, diagnose operation problems, and provide technical leadership. Provide whole building energy model and simulation. Make recommendations for improving system performance.

Job Requirements:

Bachelor's degree or equivalent in Mechanical Engineering or closely related field and two years experience performing HVAC systems analysis or whole building energy simulation and analysis, including HVAC.

Please send resume to

Quanita Savoy %Taylor Engineering
1080 Marina Village Parkway, Suite 501
Alameda, CA 94501.
Fax: 510-749-9136.
E-mail qsavoy@taylor-engineering.com

EUGENE (GENE) LAWRENCE VALERIO

August 6, 1927 – October 13, 2008

A memorial Mass will be celebrated in Gene's honor on Saturday, November 1, 12:00 p.m. at St. Monica Catholic Church, 357 S. 6th Street, Coos Bay, Oregon 97420. Gene is survived by his loving and devoted wife of 25 years, Marie; children Sandra, Peter, Paula, Michael, Tina Moran and her husband Ralph, Maribeth, and their four grandchildren, one great-grandchild and one great-great grandchild, Dan and Anita Cancelleri and their five children and three grandchildren. Gene was preceded in death by his caring sister Margie Marsh and parents Tony and Lula Valerio. He was a lifetime member of ASHRAE and formerly President of the Golden Gate Chapter in San Francisco. In 1969, Gene co-founded Air Filter/Control in Redwood City, California. Gene was a band member of "It's About Time" for ten years where he entertained at many retirement homes in the Coos Bay area. He was also a pianist for the "Bells & Beaus" for several years. Gene enjoyed working at The Coos County Historical Museum and found it very educational. Gene also worked for AARP for many years and helped seniors prepare their taxes. For more information, please contact Coos Bay Chapel at Tel: (541) 267-3131. The family suggests memorial contributions to South Coast Hospice and Palliative Care Services, 1620 Thompson Road, Coos Bay, Oregon 97420.

COMMIT TO ASHRAE RESEARCH

2008-2009 Monthly Pledge Reply Form

For about 30 cents a day, you can become an "Honor Roll" Level Research Promotion donor!

I authorize ASHRAE RP to charge my credit card through June 2009

Monthly \$ _____ per month

Bi-Monthly \$ _____ per month

This is an Individual Donation Company Donation

FROM: Name _____

Member/Donor Number _____

Company _____

Address _____

C/S/Z _____

Phone _____ Email _____

Credit Card # _____ Exp Date _____

Honor Roll Investor Categories

- \$100-\$249: Honor Roll Donor
- \$250-\$499: Honor Roll Investor
- \$500-\$999: Major Donor
- \$1,000-\$2,499: Major Investor

X _____

ASHRAE, Inc is a qualified 501(c) (3) organization
100% of every dollar contributed is invested in HVAC&R research

2008 - 2009 Events Calendar

<i>Date</i>	<i>Venue</i>	<i>Presentation Topic</i>	<i>Speaker(s)</i>
Thursday, November 6, 2008 Lunch	PG&E Pacific Energy Center, San Francisco	Solar Thermal for HVAC, DHW and Zero Energy Buildings	Josh Plaisted PVT Solar
Thursday, December 4, 2008 Joint Meeting with San Jose ASHRAE Dinner	Genentech Campus-South San Francisco	Bio-Tech Industry & Building Systems	Dough DeVeny Genentech
Thursday, January 8, 2008 Lunch	PG&E Pacific Energy Center, San Francisco	Energy Topic TBD	Dru Crawley DOE
Thursday, February 5, 2008 Dinner	PG&E Pacific Energy Center, San Francisco	CO2 Based Demand Controlled Ventilation	Steve Taylor
Thursday, March 5, 2008 Joint Meeting with Redwood Empire Dinner	Embassy Suites, San Rafael	Airside / Evaporative Energy Saving Systems	Keith Dunnivant Des Champs
Thursday, April 2, 2008 Dinner	Scott's Seafood, Oakland	TBD / Tour	TBD / Tour
Thursday, May 7, 2008 Dinner	PG&E Pacific Energy Center, San Francisco	Showcase/Tech Awards/Student Science Fair	Showcase/Tech Awards/Student Science Fair
Thursday, Jun 4 2008 Dinner	Scott's Seafood, Oakland	TBD	TBD

TBD = To Be Determined

Visit www.ggashrae.org/calendr.htm for updates, presentation summaries, speaker biographies and to register for the meetings. If you have suggestions for meeting topics, please contact Jeff Blaevoet at jblaevoet@gb-eng.com.

****Special December Meeting Announcement-November 24th Sign-Up Deadline****

The December Meeting will be held on the Genentech Campus and Security is paramount. We must present our attendance list for clearance on Monday, November 24, 2008. Therefore, there will no late sign-ups or walk-ins allowed for this meeting. Any questions, please contact any board member.

Photos



Left:
Ray Alfini and
Judy Jennings



Right:
Dick Charles
and Carl Jordan



Left: Dave
Attard and
Scott Wayland



Right: Region
X DRC Jack
Zarour, Kristin
DeMartini,
Dean Borges



Left:
John Gardner,
John Shipley,
and Jon
Baldwin



Right:
Rick Russell,
Hormoz
Janssens, Kevin
Carter



Left: Kent,
Chris
Auriemma,
Corey Rossow
and Jonnique
Pratt from Cal
Maritime,



Right: Joe
Pipitone and
David Day

