

# FOG DISPENSER

Golden Gate Chapter



ASHRAE

VOLUME XLVIII - NUMBER 5

February 2010

## February 2010 Dinner Meeting

Date: Thursday, Feb 4, 2010

Place: Scott's Seafood, 2 Broadway Ave, Oakland ([map & directions](#))

Schedule:

- 5:30 PM Registration and Social Hour
- 6:30 PM Dinner with announcements and introductions
- 7:45 PM Break
- 8:00 PM Main Program
- 9:00 PM Adjourn

Cost:

	<u>Before 3pm,</u> <u>Fri, 1/29</u>	<u>After 3pm,</u> <u>Fri, 1/29</u>
<u>GG-ASHRAE</u> <u>members</u>	\$40	\$50, but please register
<u>AIA-SF</u> <u>members</u>	\$40	\$50, but please register
<u>Non-GG</u> <u>ASHRAE</u> <u>members</u>	\$50	\$55, but please register
<u>Students</u>	Free but please register	
<u>Voucher</u> <u>holder</u>	Free but please register	

Please make your reservation at [www.ggashrae.org/meetings/2009-2010/feb.htm](http://www.ggashrae.org/meetings/2009-2010/feb.htm)

**NOTE:** If you make a reservation and cannot attend, you need to cancel in advance, or you will be billed. Isabelle Lavedrine will be taking reservations. If you need to CANCEL, please send a message to Isabelle at [cancellation@ggashrae.org](mailto:cancellation@ggashrae.org).

## Main Presentation: Getting to Zero: Lessons Learned from Design and Operation of Zero Energy Buildings



**Speaker:** Brad Jacobson, LEED AP, AIA; Associate EHDD Architecture; San Francisco, CA

**Speaker Bio:** Brad Jacobson currently leads some of EHDD's high performance projects including a zero energy, LEED Platinum office building for the David & Lucile Packard Foundation and the carbon neutral Nevada State College Master Plan. He served as Project Architect on Carnegie Institution's Global Ecology Research Center, an interdisciplinary research center at Stanford University that reduced carbon emissions from energy and materials by over 60% and was named a National AIA Top Ten Green Building in 2007. Brad was Project Manager on Stanford's Kavli Institute for Particle Astrophysics and Cosmology, a 25,000 square-foot research facility featuring exceptional day lighting and an underfloor air distribution system, and completed a feasibility study, sponsored by Stanford University's School of Engineering, for an innovative dormitory and research laboratory designed to test and demonstrate sustainable building methods and technologies. Brad received his Bachelors of Arts in Urban Studies from Stanford University and a Masters of Architecture from the University of Pennsylvania. He is co-founder of Bay Area Leadership in Sustainable Architecture, or BALSAs, which brings together leading architects to accelerate progress towards a sustainable future and was until recently a Visiting Lecturer at Stanford University where he taught a course in "Green Architecture" for the five years.

*Continued on next page*

**Presentation Summary:** Scientific consensus is that in order to halt the worst impacts of climate change, economy-wide energy efficiency gains need to be 80% or more by 2050. Since the building sector is widely identified as the easiest and cheapest place to make dramatic and rapid gains, buildings will need to lead the rest of the economy. For this reason, Zero Energy Buildings are a fundamental building block of federal, state and institutional carbon reduction plans. The California Public Utilities Commission's Strategic Energy Efficiency Plan, for example, targets net zero energy consumption for all new buildings by 2030 as a key component of the state's AB32 compliance strategy. Researchers at Lawrence Berkeley Laboratory have established that to meet AB32 targets all new buildings must be zero energy by 2030 coupled with aggressive energy retrofitting of existing buildings.

Yet there are few built examples today that demonstrate the technical and financial viability of Zero Energy Buildings. Brad Jacobson will present lessons learned from several EHDD Zero Energy buildings in design and operation. While these buildings differ in important ways from more conventional "green" buildings, the concepts covered will be applicable to all interested in closing the loop between high-efficiency building design and real world results.

## Golden Gate Chapter President's Message - Happy Winter

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Dear Golden Gate ASHRAE Members and friends,

Happy February, I hope this message and Fog Dispenser finds you well, albeit cold and perhaps very wet. I think there will be another 5 feet of snow in the sierras for the week by the time you read this.

I don't know about you, but I actually *love* the winter and the changing of the seasons. I used to do a lot of snowboarding when I was a lad. Living here in Northern California has its benefits. We had almost an inch of snow in our backyard the other week before the holidays.

I guess the only bad thing I can say about the wintertime is that my PV system is only producing between 4 and 20 kWh/day.

I was watching 60 Minutes the other weekend and Andy Rooney was discussing the weather and winter in particular. He is very funny, I'm sure you have seen him on the CBS workhorse program. He noted the recent cold snap in Florida and that we often cannot predict the weather very well. Andy also wanted to point out that he too *likes* the changes in the seasons, that he would *not* want the weather to be '*nice*' all the time.

He also said something that I found endearing and that was: "keeping warm makes us feel good". Air Conditioning during the summer helps cool us down, but it's not as satisfying.

At any rate, I liked last week's piece that Andy did that talked about *our* business. Staying warm and cool is what we do, hopefully in an efficient way. I sure hope to replace my inefficient water heater soon. Maybe the CPUC this week will pass the Solar Thermal incentive program that they stalled on last month. Stay tuned on the implementation of AB 1470.

The other thing that February brings to mind for me is my birthday. And as President of the chapter and a peer to many of you, I do recall the mentoring and professional camaraderie that I have been the beneficiary of. And a lot of that has come from my affiliation with the Golden Gate chapter.

So with that in mind, I invite you all to get involved with the chapter. Help make a difference if you have experience. If you are a YEA or new member, I encourage you to join us at our next meeting. Tell your business peers to join ASHRAE if they are not members. If you missed last month's meeting, I can tell you that as far as I know, it was the largest meeting we have ever had with close to 200 in attendance. We really have had an amazing year and I thank everyone involved.

Best Regards,

Scott Wayland,  
Golden Gate ASHRAE 2009/2010 President  
Region X Technology Transfer (CTTC) RVC

# Historian – Year 2060 – What will ASHRAE think of the Year 2010?

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Tom Gilbertson – Chapter Historian

Last month we looked back 50 years....this month lets look ahead 50 years...and imagine what the Golden Gate Chapter will think when they look back to our activity.

Clearly, like virtually no other time that I can remember, is energy consumption as much in the forefront of daily discussions...let alone discussions at ASHRAE functions.

Viewing from the year 2010...and looking back at history, our industry did waste a lot of energy in the heating and cooling of our buildings....do you remember.....

“Three-pipe systems”.....that was “hot” water and “chilled” water using a common return

“Multi-zones”.....with hot deck and cold deck coils running “wild”

“Constant temperature off cooling coils”.....with reheat always trimming the space load

My favorite “one” was the Los Angeles hotel with a three-pipe system that was 28 years old...AND had a centrifugal water chiller that that 228,000 hours of operation on the water chiller! They shut the water chiller down every January for about 1-week at which time they “over-hauled” the machine and “punched” the condenser tubes. Except for the annual service to the water chiller, it essentially ran continuously. (The “annual service” included checking and then changing vacuum tubes in the electronic control system of the chiller.)

On the “water-consumption” side there was the Chicago hotel with 850-tons of installed centrifugal refrigeration....and no cooling tower....they simply used domestic water through the condensers, and “wasted” the water to the sewer! Oh, don’t think for one minute that the bill for the domestic water was expensive....the system was installed without a water meter!....there was no water bill. Let me do the math for you...that hotel wasted over 102-million gallons of clean, treated, domestic water every year. (By way of explanation, the “hotel” was across the street from the Chicago City Hall.....)

The January 2010 Golden Gate Chapter’s meeting was a joint meeting with the U.S. Green Building Council’s members.

“Kent Peterson, ASHRAE Presidential Fellow and Chair of ASHRAE/USGBC/IES Standard 189.1 spoke about the soon-to-be-released Standard 189.1 for High-Performance Green Buildings.” ...an excellent, and knowledgeable presentation!

The Standard 189.1 reveals increased requirements for insulation, ventilation, filtration, acoustics, air and water systems, and glazing.

Additionally, Standard 189.1 (if it is adopted as an enforceable standard), makes it against the law, everywhere, to waste domestic water in a once-through system.

I wonder if the Standard makes it against the law to use “once-through” steam-systems?

Standard 189.1 seeks to reduce energy consumption in buildings....a noble thought....however...has any thought been given to making owners, builders and developers want to spend the funds that the proposed Standard 189.2 seems to want to mandate?

I think that I can assure the reader that left to their own devices; owners will amaze you at what they will do to avoid capital expenditures.

“Historically”.....(this is the Historian Column)....the reduced energy consumption that Standard 189.1 promotes is an excellent idea....I expect it will be viewed in 2060 as having been that noble thought....I wonder if it will happen?

The “legislation” of good and moral behavior, i.e., reduced energy consumption....might prove to be difficult to obtain via the “code/standard” route.

Can someone come up with an idea, or concept, to make the owners, developers, and builders want to take the actions....(and spend their money).... to reduce energy consumption....of their own volition?

The 2060 ASHRAE members will champion the concept that made voluntary activity in 2010, and the shortly ensuing years.....activity that took the strides to dramatically reduce energy consumption...because someone wanted to spend the money...(their money...not others)....to do so.

I would like to promise to write the January 2060 Historian Column, and report what really happened in the past 50 years.....actually I do promise to write the column!

## Student Activities

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John Williams – Student Activities Chair

Sid Palmer of the California Maritime Academy has been awarded a travel grant to attend the 2010 ASHRAE winter meeting in Orlando. He shall be there at the end of the month and we look forward to letting him tell us all about it in the next issue of FOG.

If you'd like to be considered for upcoming grants, please check out the website for an application:

- **March 19, 2010** for the Travel Grant to the [Summer Meeting in Albuquerque](#)
- **April 16, 2010** for the Eric T. Andresen and Golden Gate Chapter Scholarships

[http://www.ggashrae.org/awards/docs/GG\\_ASHRAE\\_2009-2010\\_Student\\_Awards\\_Application.pdf](http://www.ggashrae.org/awards/docs/GG_ASHRAE_2009-2010_Student_Awards_Application.pdf)

The Chapter is committed to fostering relationships with students at all levels to encourage interest and convey the importance of our industry in the built environment. However to foster this support won't be a single handed job. Working closely with the Chapter YEA's in particular we hope to get involved with local schools, colleges and universities to actively increase our presence. Please contact me if you are interested to help out.

**FREE DINNER ALERT!!!** We encourage our youngest members to come along to any of our regularly scheduled chapter meetings and we will buy you dinner! All that is required is that you are a registered student member of ASHRAE. Student membership application is available on-line at <http://www.ashrae.org/students/page/698> .

At the last meeting we had 4 student members take up this great opportunity to hear about the new ASHRAE/USGBC Sustainability Standard. Please seek me out if you make it along – photo attached to make that easier and I may even have a badge next time...



Contact info – [john-g.williams@arup.com](mailto:john-g.williams@arup.com) (415) 946-0230

# Chapter Technology Transfer Committee (CTTC)

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Tyler Bradshaw, ASHRAE Golden Gate CTT Committee Chair

## 2009/2010 Technology Awards

**Last year was a phenomenal year for the Golden Gate Chapter. Not only did we have more than 10 projects submitted to the chapter competition, we had five projects win first place at the Regional level, two second places and one first place win at the national level.**

We're well on our way to a good start this year and it's not too late to for you to help us best our success of our last year by submitting your entry for the 2009/2010 competition. **Entries must be submitted by February 28th 2010.**

**The submitted project should be completed and occupied for one year by the due date for the Society award application - September 2010. Therefore, your project should have been occupied by September 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.

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>

## California Green Building Code Becomes Mandatory in 2011

The new Green Buildings Standards code that was just completed last year will go become a mandatory building code starting January 1, 2011. To read more about code adoption and the associated CALGREEN building label, read the press release on the California website <http://gov.ca.gov/press-release/14186/>. A free electronic copy of the code can be downloaded at [http://www.documents.dgs.ca.gov/bsc/2009/part11\\_2008\\_calgreen\\_code.pdf](http://www.documents.dgs.ca.gov/bsc/2009/part11_2008_calgreen_code.pdf).

## Free ASHRAE Webcast April 21, 2010

Mark your calendars! **"Right from the Start – Commissioning for High Performing Buildings"** webcast registration begins March 2, 2010. Go to <http://www.ashrae.org/Cxwebcast>

## 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](mailto:tbradshaw@rumseyengineers.com).

**Announcements**

# CHC Schoolhouse

## 2010 Training Schedule

### California Hydronics Corporation

<p><b>“BASIC HYDRONICS”</b>                  February 11, 2010                  May 13, 2010                  September 9, 2010</p> <p><b>“HOT WATER BOILER                  DESIGN &amp; APPLICATION”</b>                  April 8, 2010</p>	<p><b>“STEAM SYSTEM DESIGN”</b>                  October 14, 2010</p> <p><b>“CONDENSER WATER SYSTEMS”</b>                  November 11, 2010</p> <p><b>“MODERN PLUMBING”</b>                  Domestic Booster Systems, Sump &amp; Sewage, DHW Heating                  March 11, 2010</p>
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2293 Tripaldi Way  
 Hayward, CA 94545-5024  
 Phone: (510) 266-7876

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**“Registration is at 8:00am and class hours are 8:30am to 4pm.  
 Seating is limited to 30 attendees, so you’d better hurry and not  
 miss your chance to attend the best systems training around!”**

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<p>** For course details, prerequisites, or to register on-line, please visit our web site at <a href="http://www.calhydro.com">www.calhydro.com</a> or return your completed Registration form via US Mail, E-mail or Fax.</p>	<p><b>Mail</b>                  CHC Schoolhouse Registration                  PO Box 5049                  Hayward, CA 94540-5049                  Attn: Barbara Zrout</p>	<p><b>E-mail</b>  <a href="mailto:bzrout@calhydro.com">bzrout@calhydro.com</a></p> <p><b>Fax</b>                  (510) 293-3080</p>
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\*\* Classes require a \$50 Registration fee due prior to class participation and include lunch and course materials.

**COURSE REGISTRATION FORM**

Course Name: \_\_\_\_\_

Course Date(s): \_\_\_\_\_

Registrant Information	Company Information	Method of Payment
First Name: _____ Last Name: _____ Phone: _____	Company: _____ Address: _____ _____	(Please Select One) <input type="checkbox"/> Credit <input type="checkbox"/> Check <input type="checkbox"/> Other _____

Notes / Requests / Suggestions: \_\_\_\_\_

# ASHRAE Research Report

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Jeff Violet – Research Promotion

The 2009-10 ASHRAE Research contributions are continuing very well.

A special thank you to contributors who gave on the honor level or above:

## Corporate Golden Circle (\$10,000+)

### Corporate Honor Roll (\$250+)

*Taylor Engineering*

*Nazzaro and Associates*

*Conservation Mechanical Systems Inc.*

*Esherick Homsey Dodge and Davis*

### Individual Honor Roll (\$100+)

*Edgar DeGuzman*

*Thomas Weaver*

*Isabelle Lavedrine*

*Scott Wayland*

*Max Sherman*

*Jeff Violet*

*John Roth*

*Annie Foster*

*James Nemechek*

*Gerald Yaffe*

*Kristin DeMartini*

*Gary Harbison*

*Jeff Blaevoet*

*James MacDonald*

*Alonzo Laws*

*Yalek Ho*

*Kyle Blocker*

*Osamu Yamauchi*

Several members are making small monthly contributions. Their names will soon be on this list.

Donations are tax deductible, by check, credit card or online at [www.ashrae.org](http://www.ashrae.org).

To make contributions please contact Jeff Violet, [jviolet@myeesi.com](mailto:jviolet@myeesi.com), 415-724-1214

## Marble Draw

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Many thanks to our sponsors Daybreak Technologies, Taylor Engineering and Engineered Environmental Systems for donating fantastic prizes at the joint January meeting! So far this year, we have collected over \$750 for ASHRAE research. Keep on contributing to this great cause! Your support is greatly appreciated. The marble draw odds are down to 1 of 8 and the next prize pot will be \$524 so get ready to buy some tickets! We are always in need of meeting sponsors. If you would like to donate a prize for a future meeting, please contact Sheila Ruder at [sruder@rumseyengineers.com](mailto:sruder@rumseyengineers.com) or 510-663-2070.

## 2009 - 2010 Event Calendar

<i>Date</i>	<i>Venue</i>	<i>Presentation Topic</i>	<i>Speaker(s)</i>
Thursday, October 15 5:30 pm - 9:00 pm ( <a href="#">map</a> )	Scott's Seafood, Oakland	Emerging Infectious Diseases during Healthcare Construction	Marlene Linders: <a href="#">Philders Group International</a>
Thursday, November 12 4:30 pm – 9:00 pm ( <a href="#">map</a> )	PG&E Pacific Energy Center, San Francisco	Tech Session: 4:30 pm – 5:30 pm: Low NOx Levels for Boilers and Hot Water Heaters  Program: Effective Room Air Distribution...IAQ, Air Distribution, Comfort, Std 90.1 and LEED	Julian Elliot, BAAQMD  Daniel Int-Hout Krueger
Thursday, December 3 5:30 pm - 9:00 pm ( <a href="#">map</a> )	San Mateo Fairgrounds Event Center, Sequoia Room, San Mateo	Joint meeting with San Jose Chapter  Maintain to Sustain	William A. Harrison Society Past President Trane Arkansas
Thursday, January 7 5:30pm – 9:00pm ( <a href="#">map</a> )	Scott's Seafood, Oakland	ASHRAE/USGBC/IESNA Standard 189.1 for High-Performance Green Buildings	Kent Peterson, P2S Engineering
Thursday, February 4 5:30 pm - 9:00 pm ( <a href="#">map</a> )	Scott's Seafood, Oakland	Getting to Zero: Lessons Learned from Designing Net Zero Energy Building	Brad Jacobson EHDD Architects
Thursday, March 4 5:30 pm – 9:00 pm ( <a href="#">map</a> )  (Joint meeting with Redwood Section)	Sausalito Yacht Club, Sausalito	Tech Session: 5:30pm - 6:30pm Water Reclamation, Conditioning & Conservation-Rainwater, Graywater, Reverse Osmosis, Deionization  Program: The Growing Global Importance of Recycled Water	Brian Soderholm Water Control Corporation  Lori Steere Community Affairs Rep., Office of Water Recycling, EBMUD
Thursday, April 1 DeYoung Museum	TBD	Presentation of the Arup Design and Building Tour	Ray Keane Timmons Design Engineers, formerly with ARUP
April Tech Tour		TBD	TBD
Thursday, May 6 ( <a href="#">map</a> )	PG&E Pacific Energy Center, San Francisco	Showcase/Tech Awards/Student Science Fair	Vendors and Award Recipients
Thursday, June 3 5:30 pm - 9:00 pm ( <a href="#">map</a> )	Scott's Seafood, Oakland	Targeting Net-Zero-Energy/Zero-Carbon-Emissions (Z2).	Peter Rumsey, Rumsey Engineers  David Kaneda, Integrated Design Associates

TBD = To Be Determined. Visit [www.ggashrae.org/calendr.htm](http://www.ggashrae.org/calendr.htm) for updates, presentation summaries, speaker biographies and to register for the meetings.

# Photos

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