

# FOG DISPENSER

Golden Gate Chapter



ASHRAE

VOLUME XLVI - NUMBER 5

February 2008

## February Meeting Details

Date: Thursday, Feb 7, 2008

Place: Pacific Energy Center, S.F ([directions](#))

Schedule:

11:30 am Registration and social hour  
12:00 pm Lunch with announcements and introductions  
12:30 pm Speaker presentation  
1:15 pm Adjourn

Cost:

	<u>Before noon</u> <u>Mon., 2/4</u>	<u>After noon</u> <u>Mon., 2/4</u>
<u>ASHRAE</u> <u>members</u>	\$40	\$47
<u>Non-members</u>	\$47	\$50
<u>Students</u>	Free with registration	
<u>Voucher holder</u>	Free with registration	

Please make your reservation at [www.ggashrae.org/meetings/2007-2008/feb.htm](http://www.ggashrae.org/meetings/2007-2008/feb.htm)

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

## Hydronic Radiant Cooling



### Timothy Moore., U. C. Berkeley Center for the Built Environment

Timothy Moore, LEED™ AP, is a Research Associate with the UC Berkeley Center for the Built Environment where he is also completing his thesis for a Master's degree in Architecture and Building Science. Through his own firm, Whole Systems Design, he provides building daylighting, thermal, and energy performance simulation and design consulting services to architects and engineers. He is the author of the nationally distributed LEED™ Professional Accreditation Study Guide from the Colorado Chapter of the USGBC and has been involved in a broad range of commercial and residential projects. He has also provided technology assessment and consulting on integrated design solutions for solar-hydrogen powered fuel-cell co-gen systems. He is a co-founder and former vice president of Hypercar, Inc. (now Fiberforge) and, prior to that, was a senior research associate and design consultant with Rocky Mountain Institute where he developed design strategies for ultra-light, low-drag, hybrid electric vehicles.

#### Presentation Summary:

Hydronic radiant cooling appears to have significant potential for saving energy and even improving certain aspects of indoor environmental quality.

*Continued on next page..*

However, determining when radiant cooling is the appropriate solution, designing to capture synergies and benefits, and assessing the potential of a particular design strategy are not without challenges.

Timothy will discuss a range of concerns that practitioners face in determining the fit of hydronic radiant cooling for a particular project and in realizing its potential benefits. He will describe the basics of selecting an appropriate system type and methods and design strategies that appear to address specific challenges both within computer modeling as a design tool and in system design and application more broadly. The presentation will conclude with preliminary results from his ongoing research at the U.C. Berkeley Center for the Built Environment.

## **President's Message: About LEED™**

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Robert Marcial, GG Chapter President

It's nice to be remembered.

Last week, while in New York City (my favorite destination, by far, during any time of year) for the ASHRAE Winter meeting, I received an email from a former ASHRAE student member who is now in the workforce and interested in a couple things—becoming a full ASHRAE member (bless his soul) and becoming a LEED™ Accredited Professional (AP). He was interested in my take on the level of difficulty of the LEED™ AP exam. I gave him my take on it and also volunteered my unsolicited opinion about the value of being a LEED™ Accredited Professional.

In short, I told him that it doesn't hurt to be a LEED™ AP, and emphasized that he should hold himself accountable for being a diligent, informed, and responsible LEED™ AP. I've come a long way on the value of LEED™ and have come to respect it and want it to succeed as a building rating system and professional accreditation program. I see at least two ways that this can happen—LEED™ APs being top-notch and informed building professionals and the USGBC doing what it can to promote LEED™ certified buildings that deliver on what the building's scorecard has claimed.

Through my personal experience and through stories from reputable architects and engineers, I've come to realize that the title of being a LEED™ AP is often confused with having a fundamental understanding of green building issues. Past versions of the LEED™ AP exam haven't tested one's knowledge of content, but rather about the LEED™ system and the process of taking a building through the certification process. From what I've heard, however, that's about to change. The USGBC is about to change the LEED™ AP exam to test people on their knowledge of the LEED™ system as well as fundamental building science as they apply to the LEED™ exam. That's very good news and think that the USGBC and LEED™ APs will benefit from that. Furthermore, it's my understanding that there won't be a single LEED™ exam, but rather several LEED™ exams that will be catered to the test takers' profession. In other words, an architect and a developer will have different tests. I also think that that's a change for the better and I applaud the USGBC for making that change as it will lend a higher level of integrity to a LEED™ Accredited Professional.

The second part of this month's President's message has to do with what I touched upon last month—tightening the belt on actual vs. modeled building performance as a way of lending more credibility and integrity to the LEED™ building certification system. As a professional organization, the USGBC must start encouraging, if not requiring, building owners in the direction of commissioning and retrocommissioning by giving more points to actions and investments related to achieving modeled building energy performance. I know that there is a point incentive for commissioning, but it should be a required point, if not two. If this reduces the number of new and/or existing buildings that go through the LEED™ certification process, so be it. Being certified will have that much more meaning.

I am often asked, "Do LEED™ certified buildings use less energy than uncertified buildings?" I tell people that a LEED™ certified building has the potential to be better than a non-certified building, but that it's not guaranteed. To read more about some answers to these common questions, I'd like to point our members to a couple papers that I've come across that have looked at building performance of a few LEED™ buildings. For a researcher to gain access to billing data or, better yet, to gain access to the building to do real energy monitoring is difficult, so it's up to ASHRAE members to push for that process. This inaccessibility might be due to a variety of reasons, including the building owner not being interested in participating and the cost of doing a post occupancy energy audit.

When I was in New York for the ASHRAE conference, I attended a presentation where an overseas government gave financial incentives for having a building certified under that country's green building rating system. However, only half the incentives were paid out based on the energy model. To obtain the other half of the financial incentive, the building

owner had to prove that the building lived up to the energy efficiency claims. Nice! Clearly, there are problems with that approach, one of them being that the energy model might have made some assumptions that didn't play out in how the building was ultimately used; however, it's a step in the right direction. Unfortunately, the certification is not revoked if the building did not live up to modeled predictions.

If you're interested in these types of studies, I suggest you read the papers to which I've provided links below; however, if you read these papers and learn something from them, take it upon yourself to give back to ASHRAE and the building community by doing what you can to have one of your buildings measured and written about. It will benefit the USGBC, it will benefit ASHRAE and ultimately, it will benefit you.

*Lessons Learned from Field Evaluation of Six High-Performance Buildings* (2004) by Paul Torcellini of National Renewable Energy Laboratory (with co-authors from other organizations)  
<http://www.nrel.gov/docs/fy04osti/36290.pdf>

*Evaluating the Energy Performance of the First Generation of LEED™-Certified Buildings*(2007) by Richard Diamond of Lawrence Berkeley National Lab (with co-authors from other organizations)  
[http://epb.lbl.gov/homepages/Rick\\_Diamond/LBNL59853-LEED.pdf](http://epb.lbl.gov/homepages/Rick_Diamond/LBNL59853-LEED.pdf)

After reading these, especially the second one, you'll find that LEED™ certification does not a energy efficient building make. But it's potentially a step in the right direction.

And lastly, please join us for the [February 7 LUNCH meeting at the Pacific Energy Center](#) in San Francisco where Timothy Moore will be discussing hydronic radiant cooling. I have met and chatted with Timothy and expect that he'll deliver a great presentation.

Best regards,

Robert Marcial

## 2008 Spring Seminar

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Tyler Bradshaw, CTTC Chair, Seminar Committee Member

Our 2007 seminar was a huge success; many thanks to this year's seminar committee for all their hard work. The CTTC is already planning to build upon this success with next year's seminar currently scheduled for May 1, 2008 at the PG&E Pacific Energy Center. Check back for announcement of specific topics, speakers and schedule as they are firmed up.

We are now accepting sponsorship donations for the 2008 seminar; the earlier you submit, the longer the exposure will be.

### **Sponsorship Levels:**

**Platinum = \$1,000**

**Gold = \$500**

**Silver = \$250**

**Personal Contributor = \$50**

**Note: all proceeds will go towards ASHRAE research and local student scholarships!**

If you are interested in being a sponsor, please contact Tyler Bradshaw at [tbradshaw@rumseyengineers.com](mailto:tbradshaw@rumseyengineers.com) to receive a sponsorship payment form or for additional details.

# Student Activities

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Gary Harbison, Acting Student Activities Chair

Kyle Konis was our travel grant winner to the New York ASHRAE Convention and AHR EXPO. Kyle is a Graduate Research Assistant, PhD Student with The Center for the Built Environment, UC Berkeley. He had a great experience at the winter ASHRAE meeting, the highlight being the student tour of the NY Times office building. He will be sharing his experiences with us at our regular March dinner meeting.

## Calling All Scholarship Applicants!

Upcoming deadline: March 21, 2008 for the Eric T. Andresen and Don Bryant Scholarships. Details are on the website: <http://www.ggashrae.org/awards/index.htm>

## Description of Awards:

These awards were established to provide financial assistance to local university, state university, or community-college students. It is intended to introduce students to the technical, educational and social benefits that can be derived from Society.

## Amount:

Donald G. Bryant Memorial - \$ 1,500

Eric Thor Andresen Memorial - \$ 1,500

## Eligibility for the Awards:

1. Applicants must be full-time students (12 or more units)
2. Applicants must be upper-division undergraduate or graduate students
3. Applicants must be student members of ASHRAE\*
4. Applicants must not have previously received the same award from Golden Gate Chapter of ASHRAE while working on the same degree

## Application Requirements:

1. Application Form
2. Essay
3. Resume

## Application Deadline:

Send an award application to the Scholarship Committee, by fax to 510-293-3080 or by email to [gharbison@calhydro.com](mailto:gharbison@calhydro.com) by **March 21, 2008**.

Golden Gate Chapter Scholarship Committee  
Gary Harbison  
California Hydronics Corporation  
2293 Tripaldi Way  
Hayward, CA 94545

\*On-line application for student membership: <http://www.ashrae.org/students/page/696>

The annual dues for ASHRAE student membership are \$16.00 (This fee must accompany your application for membership).

## 2008 Golden Gate Technology Awards

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Tyler Bradshaw, ASHRAE Golden Gate CTTC Committee Chair

There is only one month left to submit your application for the 2008 competition so now is the time to start your application. If you are considering submitting one or more of your projects, start by reading the requirements, downloading the required forms and getting the owner's/client's permission. If you have questions on the application process, please email me at the address below.

**The 2008 award applications must be submitted no later than Feb 2008.** The following are links for more information on how to get started.

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 2008. Therefore, your project should have been occupied by September 2007. By that time there should be good measurement and verification data available. This 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>

# ASHRAE History Touches (Lightly) Golden Gate Chapter

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Tom Gilbertson – GG ASHRAE Historian

The “history” of ASHRAE is heavily laced with the efforts of man seeking to “build, create, and invent equipment and systems” that generally make life easier for someone...and along the way perhaps create an enterprise that makes a profit for someone....**OR** maybe it is the desire to create a profit, that drives people to “build, create, and invent equipment and systems”. I’m not sure which necessarily comes first.

The recent International Air-conditioning Exposition in New York, I do know, had over 1800 displays of companies that are very busy seeking to “build, create, and invent equipment and systems”.

“History” is made in a few short years. The first “ASHRAE Show”...(that is a incorrect moniker by the way...it is the International Air-conditioning Heating, Refrigerating Exposition, and it just happens to be held during the ASHRAE Winter Meeting each year)...that I went to was in New York in 1963. What is interesting is that less than 100 of the 1800 companies that were at the Exposition in 2008 were represented in 1963!

What will the next 45 years bring? Will this industry be as interesting to work in as the last 45 years?

What passion is it that drives people to “build, create, and invent equipment and systems” to the point that over 500 firms have gone out of business, and 1700 new ones have shown up in just our industry....in what seems to me to be a short time...45 years. Well, it seems like it went pretty quick for me.

The names of the refrigeration equipment like “Cyclops”, “Schnacke”, “Redi-power”, and a “Baker”, all vanished, and each of these firms had a history that touched the Golden Gate Chapter.

Like “Baker”...makes that “Baker Ice Machine” from Maine, and Nebraska...and they had an office in Southern California that did tuna boat refrigeration, as this firm actually made refrigeration compressors. During WWII the Navy sent a young officer to work with the Baker Ice Machine as they did refrigeration work aboard ship for the war effort. It was here that Fred met Hayes...after the war Hayes hired Fred...and Fred came to the Bay Area to open an office for Baker Ice Machine which was now in the air-conditioning business. So Fred hired Mike, (that was Hayes’s son)...and Fred opened his own company....make that Vann Engineering, and Hayes Cory’s boy was Mike Cory who succeeded Fred at Vann Engineering. Maybe that is more history than you want to know?

## Membership Promotion

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Becky Courter – Membership Chair

Golden Gate ASHRAE is encouraging everyone to invite interested applicants to ANY dinner or lunch Meeting to become a member of the Society. If you bring an applicant to any meeting you and the new member will receive half of you your meal. To receive the complementary dinner, the candidate must bring a completed application or fill in an application at the door. A \$165 Society and \$50 Chapter membership fee is also required. Please bring cash or a single check (\$215 total) made payable to ASHRAE.

Questions about your membership or about becoming a new member? You can email or call me at [bcourter@norman-wright.com](mailto:bcourter@norman-wright.com) or 415-715-72742 .

## Job Postings

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### ENERGY ENGINEER

Are you looking for a new career opportunity for the New Year? kW Engineering Inc. is an independent provider of energy engineering services specializing in assessments of energy savings potential in commercial, industrial, and institutional facilities. We are seeking entry level engineers to join our team in Oakland and Long Beach to contribute to our growth and success. If you have a strong interest in the energy efficiency field, this could be the right place for you!

We are looking for self-motivated people willing to accept responsibility for a wide range of projects. Experience in controls, HVAC, refrigeration, industrial or manufacturing processes are a plus. Learn from an experienced staff committed to saving energy in buildings and industrial processes. We offer flexible work hours, hands-on experience, and a creative, casual work environment. Excellent opportunity to obtain PE or EIT. DOE-2 or M&V experience are pluses. Competitive salary and benefits for qualified candidates.

Please submit resume, cover letter and salary requirements to:

kW Engineering, Inc.  
287 17<sup>th</sup> St. Suite 300  
Oakland, CA 94612  
Job Code: KWEASH  
Email: [hr@kw-engineering.com](mailto:hr@kw-engineering.com)  
or fax 510-834-6421

### MID-LEVEL ENERGY ENGINEER

Are you looking for a new career opportunity in the New Year? kW Engineering Inc. is an independent provider of energy engineering services specializing in assessments of energy savings potential in commercial, industrial, and institutional facilities. We are seeking mid-level Engineers with 2-4 plus years of experience in energy efficiency for positions in our Oakland office. Come share in our commitment to a sustainable energy future!

We are looking for self-motivated individuals interested in technical engineering and project management responsibilities. Work with a highly experienced staff committed to saving energy in buildings and industrial processes. We offer flexible work hours, hands-on experience, and a creative, casual work environment. DOE-2, M&V, experience with utility incentive programs and/or a P.E. are pluses. Competitive salary and benefits to qualified candidates.

Please submit resume, cover letter and salary requirements to:

kW Engineering, Inc.  
287 17<sup>th</sup> St. Suite 300  
Oakland, CA 94612  
Job Code: KWMEASH  
Email: [hr@kw-engineering.com](mailto:hr@kw-engineering.com)  
or fax: 510-834-6421

# Golden Gate ASHRAE Product Showcase, April 3, 2008

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Pacific Energy Center, San Francisco

The Annual Product Showcase will be held on Thursday, April 3<sup>rd</sup> at the PG&E Pacific Energy Center in San Francisco. This year's Product Showcase is sponsored by the Golden Gate Chapter of ASHRAE; no other professional organizations are involved in the organization or planning. More than one hundred attendees are expected, including mechanical contractors, consulting engineers, architects, building owners, and sales representatives.

If your firm has exhibited at past Product Showcases, you may be familiar with this annual ASHRAE event. If the 2008 product show will be your first year as an exhibitor, you should be prepared to generate interest in your product or firm, answer questions from other ASHRAE members, and enjoy the exposure you will receive. All exhibitors are encouraged to attend our monthly dinner meeting following the product show. Please visit [www.ggashrae.org](http://www.ggashrae.org) for dinner reservation information.

## Table Pricing (Approximately 3' x 6')

ASHRAE Members:

- 1<sup>st</sup> Table: \$150.00
- Each Additional Table: \$75.00

Non-Members:

- 1<sup>st</sup> Table: \$200.00
- Each Additional Table: \$100

If you have any questions or would like to sign up and reserve your spot please contact:

Arlene Mendoza, Johnson Controls, Inc.

2007 Product Show Committee Member

(925)417-7212, [Arlene.mendoza@jci.com](mailto:Arlene.mendoza@jci.com)

# Minutes of Golden Gate Chapter Meeting—January 10, 2008

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Scott Wayland, GG ASHRAE Secretary

Meeting Date: Thursday, January 10th, 2008

Location: Scott's Seafood, Oakland

Minutes by Scott Wayland, GG Secretary

- Registration began at 5:30
- Dinner started at 6:30
- Robert Marcial, GG Chapter President, welcomed the members and called the meeting to order at 6:45 p.m. Welcome Statement
- Self introductions
- Announcements and administrative discussion
  - Jeff Violet, Research Promotion Chair
  - Tyler Bradshaw (CTTC Chair):
    - announced that the next seminar, which will be simulcast over the Web, will be on May 1<sup>st</sup>.
    - More info to come...
    - 2008 Technology Awards due in February, and the Tech Transfer committee has already received one entry!
  - Sponsors:
    - Rumsey Engineers
    - Conservation Mechanical Systems
  - PEC HVAC classes start soon, see website
  - Free passes to first time attendees to the NYC ASHRAE meeting. See Robert for details
  - Chapter needs Sponsors for the roster that will be published soon
- Robert Marcial introduced the speaker for the main presentation: Gail Brager, CBE
- Main presentation: Natural Ventilation in Mixed-Mode Buildings  
[http://ggashrae.org/meetings/2007-2008/GG\\_ASHRAE\\_NV\\_MM\\_Bldgs.pdf](http://ggashrae.org/meetings/2007-2008/GG_ASHRAE_NV_MM_Bldgs.pdf)
- Marble draw raffle by Annie Foster
- Next meeting: Thursday, February 7th Lunch Meeting, Pacific Energy Center, Hydronic Radiant Heating, Timothy Moore, CBE
- Motion to adjourn the meeting at 9 pm.

## 2007 - 2008 Event Calendar

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<i>Date</i>	<i>Venue</i>	<i>Presentation Topic</i>	<i>Speaker(s)</i>
Thursday February 7, 2008 Lunch	Pacific Energy Center, S.F	Radiant Cooling	Timothy Moore, Center for the Built Environment
Thursday March 6, 2008 Dinner	Embassy Suites, San Rafael	How to Calculate A Building's Carbon Footprint	Pat Bailey, Green Building Studio
Thursday April 3, 2008 Dinner	Pacific Energy Center, S.F.	Product Show, Awards and Student Night	Various
May 1 2008 Virtual Building Tour Dinner	Scott's Seafood, Oakland	Virtual Building Tours – Projects from Arup, F&K, Syska Hennessey, IBE, and others	Various
Thursday, June 5, 2008 Dinner		Greater Efficiency Today, Blue Skies Tomorrow: Innovation for a Sustainable Built Environment	Kent Peterson, ASHRAE Society President

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. If you have suggestions for meeting topics, please contact Jeff Blaevoet at [jblaevoet@gb-eng.com](mailto:jblaevoet@gb-eng.com).

## Photos from the January 2008 GG ASHRAE Meeting

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Left: Tunde Munz, Jeff Blaevoet

Right: Tracy Cornish, Robert Marcial, Edgar Deguzman



Left: Duane Okimoto, Glenn Friedman

Right: Guest Speaker, Gail Brager



Left: Becky Courter, Edgar Deguzman

Right: Bruce Wilcox, Carl Jordan

