

FOG DISPENSER

Golden Gate Chapter



ASHRAE

VOLUME XLIII - NUMBER 4

JAN 2005

January Meeting Details

Our only *lunch* meeting of the year!

Date: Thursday, January 13, 2005

Place: The Carnelian Room
555 California Street, Bank of America
Building, San Francisco
Take an express elevator from the
Montgomery Street entrance level to the 52nd
floor

Schedule:

11:30 AM - 12:00 PM - Registration
12:00 - 12:40 PM - Lunch with
Announcements and Introductions
12:40 - 12:50 Break
12:50 - 1:30 PM Main program

Cost: \$35 for members and guests reserved by
Monday, January 10 at noon

Students – No charge, but please reserve a
spot

Voucher – No additional charge, but please
reserve a spot. Purchase 8 meetings and get
9 for \$280.00.

\$42 for non-members, late reservations,
and at the door

Please make your reservation via our website.
Visit the Event Calendar at
<http://www.ggashrae.org/calendr.htm>, click on
January 13, and fill out and submit the form.

Remember – if you make a reservation and cannot
attend, you need to cancel in advance, or you will be
billed.

January Program

Current HVAC Design Issues in Data Centers



John Pappas, P.E., Mazzetti & Associates

Power density in data centers continues to rise, creating new challenges for HVAC designers and encouraging the development of new system and equipment technologies. Using tools like thermo-cameras to understand thermodynamics within a data center, we can better understand, with regard to power density, where we have been, where we are now, and where we are going. Most facilities do not have the option of “starting over” with their cooling systems as power density in the space increases, so we will present data center cooling schemes that address most all of the issues and can be implemented at existing facilities.

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Golden Gate Chapter President's Message, January 2005

A Happy New Year to the Members of the Golden Gate Chapter as we get ready to enter the year of 2005. This past year my family and I experienced a year filled with sadness, memories, excitement, adventure and hard decisions. Still through it all I can reflect back on some personal growth and learning experience. In *The Lion King* movie is a song titled "The Circle of Life", and last year my life contained a piece of my circle with things I dreamed of as a child and others that I had dreaded for years coming to pass as an adult.

Last year two very special women in my life, my mother and mother-in-law, passed away within 55 days. In the middle of these events, I represented Golden Gate Chapter as Delegate to Region X at the CRC for three days, and my wife and I took a two week vacation to Ireland that we had been trying to schedule for years. These mothers of many children had come full circle in their lives and were now being cared for by their children, now adults and the time had come to say goodbye. Both were well known and loved by many and will be dearly missed. When these times occur do we always acknowledge that we experience personal growth as life goes on. As Delegate, I experienced other types of learning and understanding from attending the CRC programs and learning about ASHRAE history and goals. While on vacation I discovered some family history and adventure in a country of some of my ancestors. Then came the September Red Sox, a team of my childhood with an unfilled destiny that came to a successful finish in October. The excitement of this victory was never known by my parents' generation, but still they believed and passed on that dedication to their families.

There really are many pieces to our own circle of life, whether we realize it or not. All these times during the past year I learned how hard it is for dying family members to say good bye to the living and the difficult decisions that we the child/adult must make now as the caregiver to our parents. In Ireland I discovered where some of my ancestors came from and walked their land and visited the foundations of their homes. "You came from hardy stock" my distant cousins told me, and when I walked the local cemetery to view family markers and read life spans I understood. When I arrived in the town they sailed from to come to the United States and visited the museum and local displays of what conditions were like aboard these ships, I saw how rough the trips were, but I also came to see where my sense of adventure and love of travel genes came from. I learned at CRC how much hard work and effort is volunteered annually by ASHRAE members to make our Society strong from our local Chapters to the many Regional Groups to Society and all of our technical and research committees. In the fall I learned that anything is possible with teamwork and desire, no matter what the odds are against you. If you believe you can do it, go for it.

Make 2005 the year you experience more from life. Get involved, take a trip, join or support a team, spend more time with elder members of family and allow yourself to broaden and enrich your own circle of life.

Respectfully submitted, Jon L. Wintermeyer, Chapter President

January Program continued

ASHRAE has made great strides in facilitating consensus among manufacturers in terms of classifying equipment environmental requirements, standardizing measuring and monitoring points, defining equipment room airflow, and the way in which manufacturers report and catalog equipment performance.

The designer should understand the importance of balance between energy efficiency and operational reliability. Several example projects clearly show compromised reliability, especially considering the additional risks associated with high-density cooling. In comparing systems, there are important limitations inherent in each system that should be weighed by the designer and often the facility owner.

John Pappas biography

John Pappas was educated at California Polytechnic State University in Environment Engineering with an emphasis in HVAC and solar design, and is a registered engineer in 47 states. Presently, he is a Principal of Mazzetti & Associates in San Francisco, a 100 person engineering design and consulting firm with offices throughout California, and practicing worldwide.

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John Pappas biography, continued:

He has had the pleasure of working in both the construction and consulting engineering fields for the past 23 years. During his career, John has developed and implemented substantial and complex work for a broad range of clients in the corporate, mission-critical, health care, laboratory and higher education industries with projects ranging over \$300M in total construction.

For the past twenty years, John has focused his efforts on the conception, business case justification, design, implementation, testing and operation of mission-critical facilities. He has served such clients as MasterCard, Microsoft, Apple, EDS, Goldman Sachs, Visa International, Equinix, Washington Mutual, Intuit, Kaiser Foundation Hospitals, Silicon Graphics and 3Com. John pioneered the development of cooling systems for high-density data centers exceeding 200 W/sf. He is a regular participant and speaker at the 7x24 & AFCOM conferences and has participated in mission-critical focus group discussions such as at the Rocky Mountain Institute. He is also a member of the 7x24 Northwest Chapter Exchange Server Work Group, exploring future trends in server technologies and alternative cooling systems.

From the Chapter Historian

Authored by: Carl H. Jordan, Life Member/Fellow and GGASHRAE Historian

Golden Gate Chapter – Cal Poly Workshop

The Chapter had a program that funded grants to Cal Poly, San Luis Obispo HVAC students for working on special projects directed by the Cal Poly engineering faculty.

I think it began when Tom White wrote a letter to Chapter President Jack Kniveton in late 1963. Since the Chapter required Society's approval for such a contractual venture, Dick Friedman, the chairman of the Chapter's Education Committee, communicated in writing with Society headquarters in late 1963. He also contacted Cal Poly. In mid-1965 Society approved our Workshop. Also, in mid-1965, Chapter President Gus Gendler signed an agreement with Cal Poly to provide not less than \$500 per year to the students.

Jim McGrath, Head of AC&R, created the Workshop program at the school. Other Cal Poly staff involved included Rod Keif – instructor, Julian McPhee – President, Harold Hayes and Dale Andrews – Deans of Engineering and John Hirt – Acting Dean.

My contact was unofficial and was with Rod Keif. At Society meetings he & I would sometimes visit, over lunch, about both educational and practicing aspects of HVAC engineering. Thanks, Rod.

The HVAC students would visit San Francisco annually to attend a Chapter meeting and tour selected building HVAC systems. Rod Keif and others would lead these trips.

Funding for the Workshops came first from individual member donations and this later evolved to Chapter donations. The donations ranged between \$700 and \$1500 in the late 60s and early 70s.

The program lasted until at least 1987 (i.e. 22 years or more). Its demise is attributed to a declining school emphasis on HVAC as a unique program, faculty retirements, etc.

But, it was great while it lasted!

(Information from the Chapter Historian's records, from Dick Friedman and from the author's memory.)



Air Treatment Corporation

Phone: (510) 769-0700

Fax: (510) 769-0702

Air Treatment Corporation Proudly Supports ASHRAE Research.

ASHRAE Research Report

Johanna Gustafsson, Resource Promotion Chair, GG ASHRAE

Have you used your ASHRAE handbook lately? If so, you realize how much research has gone into producing these books. The research for these books is your donation dollars at work! Every dollar you donate goes to support ASHRAE Research.

The following individuals have donated on the honor level in the last month. If you have donated and have not been recognized please notify me. I want to make sure to recognize everyone who has donated!

Corporate Honor Roll Investors (\$150+)

Air Treatment Corporation

Individual Honor Roll Investors (\$100+)

Richard Yates

Johanna Gustafsson

Thanks to everyone who has donated!

Johanna Gustafsson, (925) 417-7218, johanna@york.com.

Chapter Technology Transfer Committee

(Formerly the Technical, Energy and Government Affairs (TEGA) Committee)
By Scott Wayland, ASHRAE Golden Gate Chapter CTTC Chair

Please check out the committee website at <http://ggashrae.org/cttc>

Technology Awards

The 2005 Chapter Technology Award Competition entries will be due to the CTT Committee by the end of February 2005. Go to the following links for more info:

<http://www.ashrae.org/template/AssetDetail/assetid/25447>
<http://xp20.ashrae.org/STANDCOM/ShortForm.pdf>

Contact Scott Wayland if you have any questions.

ASHRAE News <http://www.ashrae.org/template/AboutLinkLanding/category/1584>

ASHRAE to Host Satellite Broadcast on Mold:

<http://www.ashrae.org/template/AssetDetail/assetid/37084>
<http://www.ashrae.org/template/AssetDetail/assetid/37629>

Mold Control will also be a strong focus at the ASHRAE 2005 Winter Meeting:

<http://www.ashrae.org/template/AssetDetail/assetid/37729>

Join the TEGA / CTTC Committee

If you like to assist the chapter and get involved with ASHRAE, the TEGA / CTTC committee would like your help. Please contact Scott Wayland at sewayland@comcast.net

Student Activities

Gary Harbison

The Student Activities Committee, which includes Co-Vice-Chairpersons Brett Wright and Shruti Narayan want to take "ASHRAE-to-the-Classroom" starting in January 2005. As part of this outreach, we want to solicit members' input on contacts at Bay Area elementary and high schools, where we can participate in science classes or career days, as the case may be.

As an advance notice, the February meeting will be the official, unofficial student night, and I know we all look forward to that. Any comments or suggestions, please contact me at gharbison@calhydro.com or phone: 510-266-7806

Minutes of Combined San Jose and Golden Gate Chapters Meeting December 9, 2004

San Mateo Marriot

- 5:00 PM there was a pre-meeting Technical Session held by Frank Wegener, P.E., on Field-Erected Fiber Glass Cooling Towers.
- Dinner was served at 6:15 PM.
- Following dinner were self introductions by members and Guests.
- Dick Friedman was presented with an ASHRAE Society 50-year member award from President Jon Wintermeyer.
- Gary Harbison received a Chapter Certificate of Appreciation for his work as the Student Activities Chair for the 2003-2004 year.
- The Chapter seminar this year will be held at the PEC at the end of February and the topic is Mold. Check the website for details.
- Bill Carmody, the Regional Vice Chair for Resource Promotion, discussed ASHRAE research. The name Research Promotion is returning. The future may involve the Research Promotion Chair position nominated for three years, rather than the current one year. He discussed society's goals of increasing the resource promotion goals.
- Grant Paedon, San Jose Chapter President, announced annual bocce ball tournament. Elimination tournament with cash prizes.
- Announcements were made about upcoming meetings for both chapters.
- There was a short break and then the meeting feature presentation on Commissioning was started with Program Chair Cory Palmer making the introductions for our three distinguished panelists Mark Levi, GSA, David Sellers, PECL, and Steve Guttman, Guttman & Blaevoet and Glenn Friedman who served as moderator.
- Following the panel presentation on Commissioning, there was the prize raffle conducted by Grant Paedon for the San Jose Chapter.
- The meeting adjourned at 9:30 PM.

Respectfully submitted, Glenn Friedman, Chapter Secretary

ASHRAE GOLDEN GATE CHAPTER - LUNCH RESERVATION

For Thursday, January 13th

Reservations

Please reserve prior to **Monday, January 10th at noon.**

Please reserve on-line by visiting <http://www.ggashrae.org/calendr.htm>, click on January 13, fill out the form and send.

Members with vouchers – you too must send in your reservation. We need to know how many meals to request. Please cancel your reservation if you cannot attend. Cancellations must be received by **January 10th.**

Payment

You can pay for meeting vouchers and dinner reservations using your credit card!

Purchase your 2004-2005 Meeting Voucher now! If you have a voucher and miss a meeting, you can bring a guest to the next meeting and your guest can attend for free! This offer is only good for the October 2004 - June 2005 season and the "guest for free" option will not carry over to the 2005-2006 season. The Chapter has set up a PayPal account. You may now pay for your dinner meetings using your credit card if you have a PayPal account. It's a very simple process, and the instructions are on the website at <http://www.ggashrae.org/announc.html>

- There will **NOT** be any service charges to you from PayPal nor the Chapter.
- The Chapter does **NOT** see your private card nor bank information.
- The Chapter does **NOT** even see the last four digits of your credit card number.
- You can cancel your personal PayPal account whenever you want.

Several members have already paid for their dinner vouchers using PayPal. If you have any questions about this process, please contact Robert Marcial at rmarcial@berkeley.edu.

NOTE: At the Chapter meetings we will have a list of those that have paid through PayPal, but we will not be accepting credit card payments at the meeting. **All credit card payments MUST go through PayPal. If you want to pay at the meeting, it's business as usual...cash or checks only.**

Marble Draw

The Golden Gate Chapter Marble Draw will resume in January, and the pot is over \$500!

2004/2005 Golden Gate Chapter Seminar

Avoiding Indoor Air Quality Problems in Marine Climates

Date & Time: Monday, February 28, 2005 (9:00 a.m. to 4:00 p.m.)

Location: Pacific Energy Center, 850 Howard Street, San Francisco
(Between 4th and 5th Streets)

Speaker: Joseph Lstiburek, B.A.Sc., M.Eng., Ph.D., P.Eng.

Please visit <http://ggashrae.org/seminar/> for registration and payment options.

Note that attendance is limited to 45 people total, so please reserve your spot today!

Program Description:

California has one of the largest spread in climates of any state in the union—from the hot, dry desert to the cold alpine climate—but most of the people in the Golden State live at or near the coast in what is known as the marine climate. The California marine climates are mild and often have low HVAC requirements to provide comfort, but the same qualities that make them relatively comfortable can make them difficult to design in from a moisture durability perspective.

Designing and constructing buildings in marine climates is difficult for two main reasons: the miserable climate and the lack of relevant information. Most code, manufacturer, supplier and professional literature presents a cold climate basis (“cold climate chauvinism”).

Moisture and related indoor air quality problems have become a major source of lost revenues, management frustration, litigation, image problems, lost clients, and related health problems. The building enclosure and mechanical systems interact with and influence interior environmental conditions with serious consequences. In this presentation common industry practices are challenged and turned on their head.

Design of walls, claddings, roofs, mechanical systems and interior finishes will be discussed as they relate to moisture control, durability and indoor air quality. Diagnostic procedures and remediation techniques will also be discussed.

While the focus of this presentation will be on the marine climates, comparisons will be made with other climates of interest. Building problems and their solutions will be related to operational concerns and monetary constraints. Case studies will be utilized to illustrate the key issues.

Joseph Lstiburek biography:

Joseph Lstiburek, B.A.Sc., M.Eng., Ph.D., P.Eng., is a principal of Building Science Corporation. He is a forensic engineer who investigates building failures and is internationally recognized as an authority on moisture related building problems and indoor air quality. He is a member of ASTM and the past chairman of ASTM E241 - Increasing the Durability of Building Assemblies from Moisture Induced Damage. He is a contributor and reviewer of several chapters of ASHRAE Fundamentals. He is a voting member of ASHRAE SSPC 62.2 – Ventilation for Acceptable Indoor Air Quality. He is also a voting member of ASHRAE Technical Committee 5.12 Ventilation Requirements and Infiltration and ASHRAE Technical Committee 4.4 Building Materials and Building Envelope Performance.

Dr. Lstiburek has appeared on PBS NOVA (“Can buildings make you sick?”) and is the author of numerous books and technical papers on building science, indoor air quality and durability.

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Joseph Lstiburek biography, continued:

He is the author of the U.S. DOE Handbook on Moisture Control and a special contributor to the EPA guidance document on Building Air Quality: A Guide for Building Owners and Facility Managers. He is one of the world's foremost authorities on energy efficient construction techniques and heads one of the four the Building America program teams for the U.S. Department of Energy. He is the developer of ADA (the Air Drywall Approach to air barriers) and a building science researcher affiliated with the Centre for Building Science, University of Toronto. He is a former Director of Research of the Housing and Urban Development Association of Canada.

Dr. Lstiburek has written numerous books and technical papers on building construction. He is the best selling author of the Builder Guides and has over 50 technical and journal articles to his credit. He has conducted forensic investigations and served as an expert witness on building failures all over the U.S. He is an expert in the areas of rain penetration, air barriers, vapor barriers, air quality, durability and construction technology. He specializes in rain damage and mold and microbial contamination of buildings.

Dr. Lstiburek is an acclaimed public speaker and lecturer in building science. His seminars and presentations on building durability issues are attended by hundreds of architects, engineers, builders, and property managers in the United States each year. He previously concluded a 75 city tour on behalf of the Environmental Protection Agency and the Building Owners and Managers (BOMA) conducting seminars on Preventing and Mitigating Indoor Air Quality Problems.

Dr. Lstiburek received an undergraduate degree in Mechanical Engineering from the University of Toronto, a masters degree in Civil Engineering from the University of Toronto and a Doctorate in Building Science at the University of Toronto. Dr. Lstiburek has been a licensed Professional Engineer since 1982.

Cost	Current ASHRAE Member*	Non-ASHRAE Member
On or before 2/14	\$225	\$250
2/15 or later	\$250	\$275

Registrations after February 26 will not be accepted.

The fees above include entry to class, class handouts, morning and afternoon appetizers, and lunch.

Payment options:

1. Pay on-line with credit card through . You can link to PayPal from the seminar page.

Learn more about PayPal on our "Announcements" page: <http://ggashrae.org/announcr.html>

2. Send check for appropriate amount to:
Debbie Marshall
c/o Sulzer Pumps Houston Inc.
845 92nd Ave, Oakland, CA 94603

Make check payable to *GGASHRAE Seminar*.

For more information on this year's seminar, please e-mail Max Sherman: MHSherman@lbl.gov

Photos from the combined San Jose and Golden Gate Chapters meeting in December.



Above: Gary Harbison receives his certificate from Jon Wintermeyer



Above: Thanks again to everyone who donated the raffle prizes!



Above: Cory Palmer introduces the panel members



Above: Panel discussion on commissioning – a popular topic