

FOG DISPENSER

Golden Gate Chapter



ASHRAE

VOLUME XXXVIII - NUMBER 6

MARCH, 2000

Thursday, March 2, 2000

VAV System design for Better Indoor Air Quality (IAQ)

Speaker: William J. Coad

Location: World Trade Club
World Trade Center, #300
(in the Ferry Building)
San Francisco

Date: Thursday, March 2nd, 2000

Time: 5:30pm Registration
6:30pm Dinner
8:00pm Program
9:00pm Meeting Adjournment

Cost: \$35.00 Members and Guests with reservations
\$37.00 Members and Guest without reservations.

All reservations must be received by Edgar De Guzman at edeguzman@accoair.com or fax to 650/594-4915, by Monday, February 28th.

If you need to cancel, please do so by Tuesday, February 29th.

Valet parking is available on the north side of the Ferry Building.

This talk explains the history and the physical principals of VAV systems. After exploring the genesis of the concept, the evaluation of state-of-the-art systems is presented from a critical perspective. Through an analysis of the deficiencies in the performance and economic parameters, concepts of systems based upon elementary thermodynamics and fluid theory coupled with decreased complexity will be presented.

William J. Coad is Chairman of the Board of McClure Engineering Associates, a mechanical and electrical consulting engineering firm. He has been with McClure for thirty years, engaged in the design and analysis of all aspects of building systems and as a principal of the company. He is on the Board of Directors of Mestek Corporation of Pittsburgh and of Exergen Corporation of Boston. He was an affiliate professor of mechanical engineering at Washington University, teaching graduate level courses in HVAC systems for 29 years, and is a V. P. of the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

Mr. Coad has authored a book and over one hundred articles and papers on various aspects of building systems and energy engineering. He and his firm have been pioneers in the development of computer programs for building energy analysis, cogeneration systems, well water source heat pumps, one-pipe chilled water systems, and variable flow chilled water systems. He has been active in technical, professional, and civic organizations and has received numerous awards for his technical contributions, including ASHRAE's highest award for technical achievement, the F. Paul Anderson Award.



Mark and Dave's Excellent Adventure in Dallas GGC President's Message March 2000

Freshly returned from the ASHRAE Winter Meeting in Dallas, I'm inspired to share with you reasons that led our firm to send our office (including Dave Dacus, a junior associate) to the meeting. Although I saw many of you at the meeting including your entire Board of Governors there are far too few members of this or any chapter that attend these meetings. What offsets the disruption to our businesses and private lives not to mention the expense of traveling across the country? I gave up the comfort of my home and a weekend with my family to bunk dorm style in a hotel room with Dave and Steve, work and play in lieu of sleep and sit through meetings 10 to 12 hours a day. Many suspect that a recessive gene is responsible, but I credit combination of three factors: professional advancement, business and the satisfaction that one gets from participating in great works.

A prime reason to attend ASHRAE Society meetings is that they are educational to members of all levels of experience. Dave and I both attended programs at this meeting. I learned about advancements in control systems that allow them to self-monitor and report failures of sensors, actuators and other components. Dave learned about the design and performance of radiant cooling, and thermal storage systems. In addition to the seminars there are professional development courses (I've attended an excellent and practical course on the BACNet standard) and technical committee meetings. At this meeting I sat in on technical committees covering computer applications (TC 1.5), large building systems (TC 9.6) and cooling towers and evaporative condensers (TC 8.6). The discussions at these committee meetings, and subsequently in the bars, restaurants and hospitality suites are invaluable to any member that wants to advance their craft. I've learned about the design of ground-coupled heat pump fields, energy-efficient hybrid systems that provide 100% OSA at over 600 sf/ton for schools in the South and details on field monitoring tools and techniques for field evaluations and M&V studies. At a business level, these meetings are practical as well. This is the place where manufactures select distributors, where distributors court specifiers and where research and advanced studies are funded and launched.

Our firm walked away from this meeting with contracts, collaborations and contacts for future projects. Projects that we are actively working on were enhanced through ad-hoc project meetings, discussions with interested parties and chance encounters with knowledgeable and influential people.

And then there's the trade show. The trade show is the premiere opportunity to learn about the new products that span the range of our industry. Steve found a variable-speed perimeter fan-coil for under floor application that solved a problem he had with a current project. Simply put ASHRAE meetings facilitate our trade through information and contacts. Personally, the most satisfying part of the meetings is the opportunity to participate in great works. Through participation in technical and society committees, members of our chapter have produced energy standards (Standards 90.1-1999 and 90.2), guidelines on commissioning (Guideline 1), guidelines for measurement of demand and energy savings (Guideline 14), thermal comfort (Standard 55), and indoor air quality (Standard 62-1999). In addition our chapter members have contributed mightily to the chapters of each of the Handbooks. For those of you that are interested in joining a committee or a committee effort here's the secret, simply show up to their meeting and volunteer. I walked into the TC 9.6 meeting to make an announcement and walked out as a member. Virtually all of the meetings at ASHRAE are open. In Dallas I attended the ASHRAE Learning Institute's (ALI) meeting. Unlike the technical committees, the Learning Institute Trustees are appointed by the President-Elect and report directly to the Society Board of Governors. In attendance were three Past-Presidents of society and Jim Wolf, the President-Elect. I proposed initiating educational seminars for training members on the newly published energy standard, ASHRAE-IES Standard 90.1-1999. I walked away with the necessary budget and a mandate to produce programs for the next three meetings. Representatives of the US Department of Energy were in attendance and they vowed both technical and financial support. And, at the ALI's recommendation, Society President Harley Goodman will request co-sponsorship of these programs from AIA and IES. From bottom to top this is a Society built on openness and participation, there is room for everyone with an interest and a willingness to get involved. I hope that this inspires some of you to participate at the Society level or to attend a future Society meeting. I can promise you that you won't regret it.

Another great experience is the Chapter's Regional Conference (CRC). Next month on Thursday March 2nd we begin in earnest to plan for the 2001 Region X CRC scheduled for San Francisco. This meeting will include a range of activities including an educational seminar, business meetings, chapter operation workshops, a golf-tournament, tours of wineries, a dinner cruise and other events. We need your help. If you are interested either contact myself or just show up to our planning meeting. The details follow:

CRC 2001 Planning Meeting
PG&E Pacific Energy Center
851 Howard Street (between 4th and 5th Streets in San Francisco)
4:30-5:30pm, Thursday March 2nd.
Contact: Mark Hydeman 510-749-9135 or mhydeman@taylor-engineering.com
I hope to see you there.

Speaking of great works, this month's Fog Dispenser is dedicated to Bob Levi and Allan Daly for their dedicated work in producing this year's Roster. Great job and many thanks!

**Respectfully submitted,
Mark Hydeman, Chapter President.**

1999/2000 Committee Chairs

How do you turn a 20 hour task into a 10 hour task? Simple, you split the load between volunteers. These committees serve you the members, and we need your help to do the work. Contact a committee chair and offer your services or contact a Board member to fill a vacancy.

rev. 2/00

Title	Name	Company	Phone	Email
Region X DRC	Kent Peterson	P2S Engineering, Inc.	562-497-2999	kwp@p2seng.com
President	Mark Hydeman	Taylor Engineering	510-749-9135	mhydeman@taylor-engineering.com
President-Elect/CRC Delegate/Chapter Programs	Benjamin Sun	Flack & Kurtz	415-398-3833	bpsun@sf.fk.com
Treasurer	Joseph Olivier	Syserco	510-498-1171	jolivier@syserco.com
Secretary/CRC Alternate	Joseph Olivier	Syserco	510-498-1171	jolivier@syserco.com
Board of Governors/PAOE Chair	Ernie French	Norman Wright Equipment Corp	415-467-7600	efrench@norman-wright.com
Board of Governors	Edgardo De Guzman	Acco Inc	650-594-0182	edeguzman@accoair.com
Board of Governors/Roster Committee Chair	Robert Levi	Carrier Corporation	510-563-5713	robert.f.levi@carrier.utc.com
Membership Promotion Committee Chair	Ronald Eng	Carrier Corp	510-563-5701	ronald.eng@carrier.utc.com
Student Activities Committee Chair	Robin James	Belimo Aircontrols	707-745-5998	rjames@belimo.com
Historian	Roy Gifford	PCL Construction Services Inc	650-935-2061	
Refrigeration Committee Chair	Glenn Friedman	Taylor Engineering	510-749-9135	gfriedman@taylor-engineering.com
Research Promotion/ Honor Roll/ Product Show	Cory Palmer	Norman Wright Equipment Corp	415-467-7600	cpalmer@norman-wright.com
Technical, Energy & Government Activities Committee Chair	Gary Margadant	Consulting Engineer		gasm@napanet.net
Newsletter Editor	Debra Marshall	Paco Pumps	510-639-3200	dmarshall@flow-products.com
Honors and Awards Chair	Gail Brager	University of California	510-642-1696	gbrager@socrates.berkeley.edu
Website Chair	Robert Marcial	University of California CEDR	510-849-9057	rmarcial@uclink4.berkeley.edu
Database Chair	Allan Daly	Ove Arup & Partners California	415-957-9445	allan.daly@arup.com

Codes Committee Chair	Dick Glumac	Glumac & Associates	415-398-7667	d.glumac@glumac-sf.com
Attendance Committee Chair	Richard Charles	C & B Consulting Engineers	415-442-0110	rac@cbengineers.com
Auditing Committee Chair	Daniel Reiter	Winzler & Kelley	707-523-1010	danreiter@w_and_k.com
Tennis Committee Chair	TBD Vacant			
BAEC Committee Chair	Thomas Reinarts	Keller & Gannon	415-621-1199	tom.reinarts@keller-gannon.com
Golf Committee Chair	Charlene Sturm	Air Treatment Corp.	510-655-3990	
Marbles Game Committee Chair	Leslie Hanohano	Norman Wright Equipment Corp	415-467-7600	lhanoano@norman-wright.com
Publicity Committee Chair	Mike Scofield	Conservation Mechanical Systems	707-829-2080	cmscofield@aol.com
Reception Committee Chair (Membership Vice Chair)	Jeff Dittman	Glumac International	415-398-7667	j.dittman@glumac-sf.com
Redwood Empire Section President	Patrick Bailey	Geopraxis Inc	707-996-9408	pbailey@geopraxis.com
Seminar Committee Chair	Laurens Vaneveld	Taylor Engineering	510-749-9135	lvaneveld@taylor-engineering.com
Weather Data Committee	Nenad Saric	ATI Engineering Services	925-648-8800	nsaric@atiengineering.com
Golf Co-Chair (next year's chair)	Robert Polizzi	California Hydronics Corp	510-293-1993	bpolizzi@calhydro.com
Chapter Program Committee Chair (President Elect)	Benjamin Sun	Flack & Kurtz	415-398-3833	bpsun@sf.fk.com
Honor Roll Committee Chair (Research Chair)	Cory Palmer	Norman Wright Mechanical Equip Co	415-467-7600	cpalmer@norman-wright.com
PAOE Committee Chair (Past-President)	Ernie Wright	Norman Wright Mechanical Equip Co	415-467-7600	efrench@norman-wright.com
Product Show Committee Chair	Cory Palmer	Norman Wright Mechanical Equip Co.	415-467-7600	cpalmer@norman-wright.com
Roster Committee Chair (1 st Year Board Member)	Robert Levi	Carrier Corporation	510-563-5713	robert.f.levi@carrier.utc.com

Have you moved?

Members, please help us keep track of you. If you have recently changed your address, phone, fax or email, please make sure that Society's database is up to date. Call 1-800-5-ASHRAE or change information on Society's website at <http://www.ashrae.org/>. If you want to make changes on-line follow these steps:

- 1) Click on "Membership Records" under the "Members-Only Section" (note you will need your membership # and pin which are on your membership card).
- 2) Click on "Address Change"
- 3) Enter your Name, Membership#, EMail Address and any changed contact information
- 4) Click on submit

Official Slate of Candidates for Next Year's Board

At our March 2nd Chapter Meeting we will complete or official slate of candidates for next year's Board of Governors. The Nominating Committee (Mike Scofield, Dan Reiter and Jim Nemechek) want and need your input. Feel free to call any of them to make a recommendation. Their initial slate of candidates was announced at the February 3rd Chapter Meeting. It follows:

The Nominating Committee's Recommended Slate of Candidates

Past-President	Mark Hydeman
President	Ben Sun (this is an automatic assignment and is not voted on)
President-Elect	Joseph Olivier
Secretary	Edgar DeGuzman
Treasurer	Robert Levi
2nd Yr Board Member	Jon Wintermeyer
1st Yr Board Member	Robin James

At the March 2nd Chapter Meeting we will ratify the slate of candidates. During the March meeting, any Member in good standing can bring an additional candidate to the floor for any office except that of the President. In addition any member may bring a name to the floor by presenting it in writing to the acting Secretary, Joe Olivier, prior to the March meeting. If a name is brought to the floor and a majority of members vote for it the name will be added to the official ballot. This official ballot will be published in the April Fog Dispenser and on the chapter website. Please take the time to fill it in and return it to Joe Olivier, the acting Secretary. All of the ballots received before or at the April meeting will be tallied and next year's Board will be announced at the April 6th meeting. All of this is detailed in Section 7 of our chapter's Bylaws. Copies of the Bylaws are published in our Roster each year, and can be found on the website at <http://www.ggashrae.org/by_laws.htm>.

If you have any questions about the process feel free to contact a member of your Board.

***Respectfully Submitted,
Mark Hydeman, Chapter President***

Effective this meeting – the cost of dinner and meeting will be \$35/person if reservations are made by the deadline posted in the Fog Dispenser or on the website. If you show up without reservations the cost will be \$37/person. Please make sure you send in your reservations!

Also, if you register and do not make arrangements prior to the meeting for cancellation, Cory Palmer, the Research Chair, will be given your name to make payments.

(March 2000 Research Article – Fog Dispenser)

We can all encourage our colleagues, clients, vendors, and competitors to contribute to ASHRAE Research. Consider the following if you are a:

Contractor- Before you solicit quotations from manufacturers, ask them if they support ASHRAE Research. You might also want to mention that your preferred vendors tend to be Honor Roll investors. Ask them if they think it's a coincidence.

Consulting Engineer- Just as your manufacturer's representative is about to leave a new set of catalogs in your library, tell him/her that you usually specify HVAC equipment that is represented by ASHRAE Research supporters and wink at him/her.

Sales Representative- Tell each of your customers that before you can accept their purchase order, you have to be sure they are an Honor Roll investor.*

*I will double my current investment in ASHRAE Research for this year if this ever happens!

The minimum investment level for personal Research Honor Roll is \$100 and \$150 for a corporate contribution. Thanks to the following new Honor Roll contributors:

INDIVIDUAL

James MacDonald
Frank Mayhew
Robin James

CORPORATE/GROUP

Flow Products, Inc.

Checks to ASHRAE Research should be mailed to:

Cory Palmer
c/o Norman Wright Mechanical Equipment Company
99A South Hill Drive
Brisbane, CA 94005
415.467.7600 phone / 415.467.0900 fax

Cool Tools Seminar has been changed!! See the enclosed flyer for information!!!

Save a Student, Chair the Fog

To date, no one has stepped to the plate to produce next year's Fog Dispenser. If you have a person in your office that could produce this vital part of our chapter operations PLEASE don't wait to tell us. In lieu of a volunteer the Board will vote to have the newsletter professionally typeset. This is likely to cost \$400 per issue or \$3,600 per year. That amount almost equals this year's contribution to both of the chapter's scholarship funds. Be a hero, don't leave us with this draconian choice of education or newsletters. As an added bonus if you volunteer, your company's name will be blazoned on each issue, front page, at no cost. This offer is time limited, so don't miss the opportunity. As an added bonus I will personally thank you in front of the Chapter. Remember this is a time limited offer and we are desperate.

Respectfully Submitted,

Mark Hydeman, Chapter President
Mark Hydeman, PE, Partner
Taylor Engineering, LLC
1305 Marina Village Parkway
Alameda CA 94501
(510)749-9135
(510)749-9136 FAX
mhydeman@taylor-engineering.com

The following items were voted on at the last GGC Board Meeting:

Motion by Joe Olivier to postpone the seminar to a date of Mark Hydeman's choosing.
Approved 3-0-0 CNV

Motion by Bob Levy to donate \$100 to the SF Bay Engineering Council Scholarship Fund (same amount as last year)
Approved 3-0-1 CNV

Motion by Edgar DeGuzman to charge an extra \$2 for people who show up at the meeting without a reservation
Approved 4-0-0 CNV

Upcoming Programs:

Month	Program
March 2, 2000 World Trade Club	VAV Systems for Improved Comfort and Air Quality
April 6, 2000 PG&E Energy Center	Product Show
May, 2000	Field Trip - Monterey Bay Aquarium
June 1, 2000	To Be Determined

MARCH AND EARLY APRIL CLASSES AT THE PACIFIC ENERGY CENTER:

Lighting for the Elderly and Visually Impaired

Thursday, March 2, 9:00 a.m. to 4:30 p.m.

The elderly and persons with visual impairments have special lighting needs. We will cover design considerations for achieving safe and comfortable lighted environments for partially sighted individuals.

Whole Building Energy Benchmarking: Applications and Techniques

Tuesday, March 7, 9:00 a.m. to 4:30 p.m.

Whole-building energy benchmarking is a critical part of the process whereby energy service companies and facility managers choose which energy retrofits to pursue. This program will cover the tools and techniques available to assist in developing benchmarks.

Commissioning of HVAC Systems and Equipment

Thursday, March 9, 9:00 a.m. to 4:30 p.m.

Commissioning of new and existing building energy systems has become increasingly popular and economical. We will discuss the latest tools and techniques used to commission HVAC systems and equipment.

Baselining Electrical Loads in Buildings

Tuesday, March 21, 9:00 a.m. to 4:30 p.m.

Learn to assess the electrical loads of buildings through the use of simple measurement tools. We will discuss the development of measurement plans, selection and programming of appropriate equipment, and evaluation of the collected data.

Data Collection for Compressed Air

Tuesday, April 4, 9:00 a.m. to 4:30 p.m.

In commercial and industrial facilities compressed air systems are often in disrepair and the source of significant energy waste. We will focus on measurement tools and software programs, including AirMaster, that are available for evaluation of these systems.

EVENING LECTURES AT THE PEC (Refreshments from 6 to 6:30 p.m.; Speaker from 6:30 to about 8 p.m.)

Michael Siminovitch: Bringing Lighting Excellence to the Marketplace Thursday, March 2

Michael Siminovitch, Staff Scientist at Lawrence Berkeley National Laboratory, will describe how bringing the findings of publicly funded research to the lighting industry has resulted in commercial products with improved energy and optical performance.

Galen Cranz: The Chair: Rethinking Culture, Body and Design Thursday, March 16

Galen Cranz, Professor of Architecture at UC Berkeley, examines the cultural artifact known as the chair, describing the history, physiology, and politics of how and why we sit the way we do. Professor Cranz will sign copies of her book, The Chair: Rethinking Culture, Body and Design.

Matt Taecker: We Have Feet and Other Amazing Insights for Sustainable Communities Thursday, March 30

Matt Taecker of Calthorpe and Associates will illustrate how cities and regions can grow using compact, mixed-use neighborhoods as their primary building block and how we can attain pedestrian-friendly neighborhoods even as developers, lending institutions, and government agencies emphasize the car.

Beverly W. Coleman

PRODUCT SHOW ANNOUNCEMENT

Thursday, April 6, 2000

Annual Product and Service Show (with the American Society of Plumbing Engineers)

Location: PG&E Pacific Energy Center
851 Howard Street (between 4th & 5th)
San Francisco

Schedule: 4:30 p.m. Open for exhibitor setup
4:30-6:30 Table top displays/social hour (bar opens at 5:00 p.m. Your first drink is compliments of the exhibitors)
6:30 Dinner
7:30 Meeting
9:00 Adjournment

Speakers: Each exhibitor will each make a 30-second presentation. The topic of each presentation will be "When you use this product, service, or company, whatever you do, make sure you do (or do not) _____." The topics can be humorous and/or informative. For example, if you represented an automobile manufacturer, you might say "When you are driving down the road and want to pass someone, don't shift into "P."

Door Prizes: Everyone who pre-registers for dinner is eligible for raffle prizes. Last year we gave away over \$500 in gift certificates!

Info: Contact Cory Palmer by phone (415.467.7600 X 111) or e-mail (cpalmer@norman-wright.com)
Learning Program Coordinator
Pacific Energy Center
851 Howard Street, San Francisco, CA 94103
phone: 415/973-6960
fax: 415/896-1290
email: bwc8@pge.com

Employment Opportunities

JYA Consulting Engineers, Inc. is looking for a talented CAD operator/mechanical designer to join their team in Orinda. Please fax resumes to 925/253-8040.

A Peek From the Cubicle



As you may have noticed, some of these pictures are from the January luncheon and from February's meeting. We are also honored with a picture of the Redwood Empire's officers. Can you pick it out?

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