



ASHRAE

Hawaii Chapter

HE EA MAKAMAE

A monthly publication by the American Society of Heating Refrigerating and Air Conditioning Engineers, Inc.

SY 2008-09, Issue #9 HONOLULU, OAHU, HAWAII April 2009

MAY DINNER MEETING

RESEARCH & MEMBERSHIP PROMOTION NIGHT

Thursday, May 14, 2009

**Technical Session: DO & DON'T - Improving Energy Efficiency
Using Modern Thermostat Technology**

Main Program: Successful Controls Projects.... Why So Hard?

5:30-6:00 PM	Registration
6:00-7:00 PM	"DO & DON'T" Technical Session
6:30-7:30 PM	Attitude Adjustment (Open bar – 2 drink tickets)
7:00-7:30 PM	Dinner & Committee Reports
7:30-8:30 PM	Main Program

REGISTRATION: RSVP Kevin Saito kevin.saito@trane.com and remit payment to ASHRAE Hawaii Chapter, P.O. Box 3916, Honolulu HI 96812-3916 by April 6, 2009. Otherwise, for expedient registration, remit payment via "PayPal" by clicking <http://hawaii.ashraechapters.org>.

RSVP (Pre-registration): All pre-registrants (show or no show) will be billed accordingly.

ASHRAE Members: \$40 per person

Non-Member of the above organizations: \$45 per person

No RSVP (Registration on-site):

Regardless of Members or Non-Members: \$50 per person

MAIN PROGRAM:

*Successful Controls Projects
Why So Hard?*

This month's main program will feature **J. Jay Santos, P.E.**, who is a principal and co-founder of Facility Dynamics Engineering (FDE), which is a 20 year old firm that focuses in commissioning and retro-commissioning.

Jay's presentation will focus on HVAC Controls, which are obviously a key element to the performance of the HVAC system. They are the "brain" of the HVAC system and yet current practice is to performance specify many important details. There have been vast changes in control technology over the past 30 years, from pneumatics to overlay Energy Management Systems to current Direct Digital Control systems. The complexity of current DDC systems warrants more detailed design, specifying and documenting of sequence of control. Master planning DDC systems for given projects, customer sites, is imperative to capture desired intent of control system and its use.

Some key aspects of DDC specifications will be discussed as well as key responsibilities for owners, engineers and contractors

DIRECTIONS TO THE WILLOWS

901 Hausten Street, Honolulu (Phone: 952-9200)

FROM DIAMOND HEAD (Westbound): Take H-1 and exit at Kapiolani Blvd cut-off. Go past University Avenue & turn RIGHT at Hausten Street.

FROM EWA (Eastbound): Take H-1 and exit at Isenberg Street cutoff. Turn LEFT on King Street and take the 2nd RIGHT into Hausten Street.

for more successful control projects. Commissioning has become a more popular service partly due to the challenge of getting HVAC systems to work effectively and efficiently and partly due to the requirements of LEED. Some of the important issues that are relative to providers, engineers, owners and contractors will be discussed.

Jay has directed the development of DDC/control master plans for numerous institutions and organizations nation-wide. These plans deal with procurement issues associated with DDC controls and typically include standardized approaches to system documentation and teaches DDC courses Wisconsin, North PGE Energy Center in developed an Commissioning Course the skills necessary to systems and controls in the DDC Online Energy Center. He is member of the HPAC Engineering Editorial Advisory Board. Jay is also a former member of ASHRAE Professional Development Committee and DDC Guideline Committee.



sequences, specifications. He for the University of Carolina State, and the San Francisco. He has Advanced focused on teaching functionally test HVAC the field. He developed website for the Iowa

In the State of Hawaii, FDE have been involved in dozens of commissioning projects at MCBH, energy and controls upgrades at Quad IJK, a large Retro Commissioning effort at Schofield and boiler trouble shooting at Queens Hospital. They have also developed a set of controls standards that MCBH uses consisting of standardized specifications, points lists and sequences for common HVAC systems. FDE have commissioned over a thousand projects in the past 15 years. It is also active in controls design, controls master planning and Fault Detection and Diagnostic software.

PECO, including Sales Applications Engineer and Product Manager, and has led new product development projects. She serves as an important technical resource for the company. Currently she manages the company's sales for the Western United States and Canada.

PECO was founded in 1938. Since its inception, PECO has produced aluminum and zinc die castings. The company grew strongly through the late 1960s adding injection molding services and aerospace products to its core capabilities. In 1972, PECO began offering temperature controls to the commercial cooking, agricultural and HVAC markets.

Today, PECO has nearly 250 employees organized into three Business Units: *Aerospace, Automation and Controls,* and *Precision Manufacturing.* PECO is a diversified, modern corporation that conducts business throughout the world. The company is proud of its focus on customer service and engineering excellence that has helped it prosper for more than 65 years.

DO & DON'T TECHNICAL SESSION:

Improving Energy Efficiency Using Modern Thermostat Technology for New and Retrofit Applications

This technical session Efficiency using Modern New and Retrofit newer thermostats and designers to meet specific to retirement properties, hotel residential facilities.



will focus on Improving Energy Thermostat Technology for Applications. Key features on occupancy sensors allow requirements for applications communities, time share operations and high-rise

Marcia Christiansen will discuss methods for improving energy efficiency using:

1. Programmability in conjunction with occupant adjustment accessibility
2. Infrared occupancy sensing
3. Newer robust wireless technology to meet applications requiring energy saving features using a wireless control strategy.

Marcia is a Regional Sales Manager for the Automation and Controls Business Unit of PECO, Inc. in Portland, Oregon. Her area of expertise is temperature controls and sensors. She has held key positions during her 17-year tenure at

"DO & DON'T Technical Session will be held monthly. To the other product manufacturers or service companies, who are interested to conduct this session, make your reservation with Kevin Saito. Cut \$250 check and make it payable to ASHRAE Hawaii Chapter. Send it to P.O. Box 3916, Honolulu HI 96812-3916. Otherwise, remit your payment via PayPal.

Go to our chapter website at www.hawaii.ashraechapters.org.

PRESIDENT'S MESSAGE – Joseph K. Ting, P.E.

Until one knows the basic of “psychrometrics”, one won’t be able really comprehend the importance of “controls”. Our last session dealt with the-basic of “Psychrometrics & Its Applications”. On 4/9/09, Trane’s Comprehensive Solutions Account Manager, **Kevin Saito, P.E.** spoke on the most fundamental topic that relates to the day-to-day livelihood of HVAC engineers..... his presentation, he to air conditioning and of psychrometrics. It was difference between dry humidity plays such an has to do with mold “index point” is Members & friends came psychrometrics in



“Psychrometrics: Science of the properties of air”. In emphasized why the properties of air is so important common issues that arise from the misunderstanding a refreshing lecture to most attendees to learn the bulb and wet bulb temperatures, why relative important role in dehumidification, what dew point growth, and why a psychrometric chart without an worthless to anyone, who understands psychrometrics. to join the technical ride through the world of exploring it in a slightly different way.

Top photo depicts our chapter PP John Gesser thanking our main program’s speaker, Kevin Saito, P.E. for his timely delivering of HVAC fundamentals to our chapter membership.



TABCO (Total Air Balance Company, San Jose, California) General Manager, Curtis Worley shared with the chapter membership his “TAB DO & DON’T”, so that the consultants & contractors can be much more prepared when requesting TAB services for new construction prior to commissioning or for retro-commissioning work after building is occupied. Having a great design without “TABing” the installed HVAC system does not



constitute a job well done. Discomfort in many interior spaces is usually a result of missing TAB work or having a “piss-poor” TAB contractor, who do not understand the fundamentals of HVAC system. Curtis has also demonstrated the instrumentation & measuring devices used for the TAB work of the airside & waterside of the HVAC system.

Our chapter PP Victor Russell thanked the technical session’s speaker, Curtis Worley for providing us an entertaining presentation pertaining to the TAB DO & DON’T of HVAC system.

LOOKING BACK: On April 3rd, I participated at the ASHRAE Hong Kong Chapter 25th Anniversary, which was held at the Shangrila Hotel in Tsim Sha Tsui, Kowloon, Hong Kong, China. The following day after this event, Society President Bill Harrison, President-elect Gordon Holness, Vice President Vincent Tse, Hawaii Chapter President Joseph Ting and a large delegation of Hong Kong Chapter past presidents attended the China Air-conditioning & Refrigeration Exhibition (April 5-7, 2009) in Guangzhou, China. It was educational & informative. Right photograph depicts Joseph Ting with Hong Kong past presidents & current officers in Shangrila Hotel, Guangzhou, China.



LOOKING AHEAD: Our next social event will be the “Installation of Officers Night” to be held on June 12th (Friday). It should be a fun evening at The Willows.

The program should kick-off with the officers’ installation at 5:30 PM. “Just Like Vegas” activities will commence at 6:30 PM and buffet dinner will be served simultaneously. The FUN Night should end at 8:30 PM.

CHAPTER PROGRAMS – Kevin Saito, P.E.

When I talk to clients about controls, I mostly get a glazing of the eyes and a blank stare. Yet, controls are more important a topic than the color of paint in the company’s reception room. The CEO/CFO/COO spends more time and has more discussion over the paint samples than they do for the new controls system that will ensure efficient operation of their facilities.

In fact, the only other topic less interesting to them may be psychrometrics! Still, if the chiller plant is the heart of an HVAC system, the controls must be the nerves and brain. While most modern chillers already come from the factory with some level of controls built in, facilities managers understand that their buildings requires the optimization of the ENTIRE building including pumps, fans, etc. Just imagine the horror of being paralyzed while your brain is still active – that’s kind of like the HVAC system without DDC controls –like when the maintenance worker throws the system into “manual” mode instead of automatic.

Without the effective control of the system and successful integration of the control strategy, the building might as well have a bunch of manual switches with pilot lights and mechanical contractors. Better pray the guy throwing the switches is staying awake and understands what each light means! Modern controls not only detect conditions outside the allowed range and abnormal set points, they can reduce maintenance and operational efforts and cost. They protect the equipment from abnormal conditions that could cause the equipment to fail prematurely or operate outside acceptable ranges. Come to the May monthly meeting and find out more about this critical system.

Speaking of psychrometrics (and who doesn’t every working day?), I hope those who attended last month’s Chapter meeting and heard the main presentation learned a little bit more about the topic. Big thanks to those who stayed and stayed awake! It’s not an easy topic but it’s important to understand especially if you’re in the HVAC business. Sooner or later, you will come across a problem that involves psychrometrics so apply what you’ve learned and feel free to contact me if you have any questions. I can’t say I’m the expert on the subject but I will do my best to get you an answer. Have a great day and see you at the next meeting.

CHAPTER TECHNOLOGY TRANSFER – Albert Hahn, P.E.

The Chapter will be hosting a previously recorded webinar (web seminar) on “Mold” this May. Tentatively, we are shooting for May 20th from 11 AM to 3 PM with a location to be determined. We will be hosting this webinar at **NO CHARGE**. So if you want to know more about mold and/or you need four (4) continuing education credits or PDH (professional development hours), please mark your calendars. Seats are limited and will be available on a first come first serve basis. To reserve your seat, please email Albert Hahn at ahahn@douglasengineering.com.

STUDENT ACTIVITIES – Paul Fukunaga, P.E.

The 52nd Hawaii State Science & Engineering Fair was held on April 7, 2009 at Blaisdell Center. ASHRAE Hawaii Chapter participated as an agency judge and presented the following awards for projects related to heating, air conditioning, ventilation or refrigeration:

1. Junior Display: \$25 (Daniel Claudell & Jerid Liddiard)
2. Junior Display: \$25 (Jace Tsue)
3. Junior Research: \$50 (Alex Hashimoto & Alexys Bermudez)
4. Junior Research: \$50 (Hailey Fines, Rolly Calabitin & Christina Gonzalez)
5. Senior Research: \$75 (Margaret Pascual)
6. Senior Research: \$75 (Kyle Connor Fleming)

The senior projects (Grades 9 through 12) were particularly related to our industry. Ms. Pascual’s project, “Legionella Pneumophilia Disinfection Using Natural Ultraviolet Light”, successfully investigated the effectiveness of using natural sunlight to kill the Legionella bacteria found in her window AC unit’s drain pan. Mr. Fleming’s project, “Housing Insulation: Which One’s Better ?” studied the temperature response of room air in 4 model houses, uninsulated, insulated with fiberglass, Styrofoam and polyurethane. The temperature response for heat-up and cool down on a typical day

were plotted and demonstrated the effectiveness of fiberglass insulation as well as thermal inertia of insulation contributes to lower room temperatures. The junior division's awardees (6th through 8th graders) were all very articulate and able to explained design concepts such as blade pitch, air foil blades, number of blades and other parameters to optimize the fan design for wind generators. We congratulated all the participants we interviewed on their dedication to further their knowledge in science and engineering and encouraged them to become the engineers of the tomorrow.

On April 11, 2009, ASHRAE members Sam Gillie and Paul Fukunaga participated as members of the Industry Advisory Board (IAB) for the Department of Mechanical Engineering (DME), University of Hawaii at Manoa (UHM). The IAB is an element in the Accreditation Board for Engineering and Technology (ABET) accreditation process. The IAB members responded to a written survey of the performance of mechanical engineering graduates from UHM, toured the DME's lab facilities and reviewed and discussed the mission and objectives of the DME as it relates to industries' needs.

One of the most important issues is the replacement of three mechanical engineering professors who have resigned or retired. The shortage of professors has resulted in some ME core and electives courses being offered only once a year instead of every semester. The lack of available courses has resulted in students taking an additional year to graduate and there could also be a correlation to a decrease in ME students this year. The IAB members discussed implementing a write-in campaign to the UHM chancellor for the hiring of at least three additional ME professors as it appears funding of these positions is being held up due to budget shortfalls.

MEMBERSHIP PROMOTION – Min Zhong, P.E.

The Society record shows that only less than 50% of the Society members paid their \$20 chapter dues. If an individual would like to be a member of the Hawaii Chapter, he/she should pay also the \$20 local dues in order to obtain the benefits set-forth by the Chapter. Such benefits include discounted meals at our Chapter monthly meetings and registration for all other Chapter activities (technical seminar et al) as well as access to Chapter Roster online. ASHRAE is a non-profit organization and is NOT a charitable organization. On that note, the Society as well as the Chapter needs to collect dues in order to efficiently and effectively operate the said organization in accordance with the Society Constitution & Bylaws, in order to provide the benefits as defined by the Federal Law as 501(c)3 organization.

If you were among those, who have not paid the Chapter dues, kindly provide a \$20 check payable to ASHRAE Hawaii Chapter. Then, send it to P.O. Box 3916 Honolulu HI 96812. Note that it has been delinquent for the past 9 months (3/4 of our fiscal year). For those already paid, we appreciate your effort and support.

List of Society Members Who Have Not Paid Their Chapter Dues:

<i>Albert Hahn</i>	<i>Dyrk Teramae</i>	<i>Kevin Chong</i>	<i>Neil Asato</i>	<i>Stephen Timpson</i>
<i>Andrew Petersen</i>	<i>Isaac Duncklee</i>	<i>Kyle Cheng</i>	<i>Nicholas Allday</i>	<i>Steve Olsen</i>
<i>Brian Kang</i>	<i>Jason Huffman</i>	<i>Lori Ann Arakawa</i>	<i>Pam Farnsworth</i>	<i>Thomas Chong</i>
<i>Clayton Oku</i>	<i>Joey Resurreccion</i>	<i>Mark Kalahale</i>	<i>Patrick Sharkey</i>	<i>Todd Beiler</i>
<i>Clayton Shobu</i>	<i>Joseph Semeniuk</i>	<i>Matt Ortscheid</i>	<i>Randy Iwamoto</i>	<i>Victor Russell</i>
<i>Dennis Kephart</i>	<i>Justin Kauwale</i>	<i>Matthew Briley</i>	<i>Rick Schnarr</i>	<i>Wesley Tyau</i>
<i>Deron Jyo</i>	<i>Kamuela Lacerdo</i>	<i>Michael Conway</i>	<i>Sage Kiyonaga</i>	<i>William Denham</i>
<i>Dominador Agluba</i>	<i>Keith Nakanishi</i>	<i>Michael Yatsushiro</i>	<i>Sheldon Fukamizu</i>	<i>William Tanruther</i>
<i>Donald Kaitoku</i>	<i>Kevin Chock</i>	<i>Mofazzal Mir</i>	<i>Stefan Beresiwsky</i>	<i>Yoon Sung Hwang</i>

Finally we got the Chapter Roster for Year 2008 to 2009 online! We tried our best to make sure our members' information is correct and current. Thanks for the assistance from our chapter president, Joseph Ting, as well as other chapter officers, and committee chairs. Without them, this Roster would have not been complete. Whenever you have time, please go to ASHRAE website, www.ashrae.org, login-in to your account and update your information. Basically, this helps us to retrieve the correct information from the Society database.

Chapter Roster will be provided to the Society members, who paid also their chapter dues. Please be noted that the Roster is only for your personal use and not meant for further distribution to non members. It's not meant for any financial gain through the selling this Roster.

Our May monthly meeting will be designated as MP Night. As promised earlier at the beginning of this year, we will provide the new members of this year with two free movie tickets at this meeting. To our new members, we would like you to join us and claim your gift. New members for the Society Year of 2008-09 are listed as follows:

Adam Negele (CPI Mechanical)	Brian Coday (CPI Mechanical)	Clayton T. Shobu (Shobu Refrigeration)
Dominador Agluba	Duane A Ashimine (Energy Industries)	Dyrk M. Teramae (InSynergy Eng Inc.)
Gary Gribbon (CPI Mechanical)	Jake Gribbon (CPI Mechanical)	Jason Huffman (Pacific TAB)
Jonathan Muratsuka (Heide & Cook)	Kamuela K. Lacerdo	Kevin Chock (Chelsea Group)
Kyle Cheng (MEH Corporation)	Lori Ann Chiemi Arakawa (USACE)	Matt Ortscheid (CPI Mechanical)
Pam Farnsworth	Ross Sasamura (Heide & Cook)	Scott La Beau (DMG HVAC)
Sheldon H. Fukamizu (Heide & Cook)	Tony Rasabout (Thermal Eng Corp)	Todd Beiler (D. L. Adams Assoc, Ltd.)
William Tanruther (Trane)		

BOARD OF GOVERNORS' MEETING MINUTES – 03/26/09

1. Meeting called to order by Joseph Ting at 11:50 AM.
2. Attendees: Dicson Aggabao, Tyson Toyama, Eric Nakagawa, Ken Richardson, Sam Gillie, Alayna Shima, Harendra Panalal, Mofazzal Mir, Paul Fukunaga, Albert Hahn, and Joseph Ting. Chapter members & guest attended: Bill Lee, Paul Scott and Mike Wolfe.
3. Approval of 2/12/09 Meeting Minutes: No further objections taken – Unanimously approved.
4. Treasurer's Report: No treasurer's report provided.
5. Status of IRS Filing: Tyson agreed to hand the financial documents over to Albert by next week (4/2/09), so that Albert can complete the filing at the earliest possible.
6. Newsletter: Articles for the Newsletter from the committee chairs should be submitted ASAP (Due date was 3/19/09).
7. Student Activities: Paul reported that he will be judging the Sr/Jr Science Fair poster session. Joseph suggested if Harendra could help out if desired. Paul also reported that, on 3/10/09, a tour of the Standard Sheet Metal's shop was a success.
8. Update RP Activities / Lester Nakata Memorial Funds (LNMF): It was reported that the total receipt from the Technical Seminar & Product Show was about \$26K. The Product Show provided us \$17,800 from the sale of 27 tables and the Technical Seminar provided us \$8,375 from the 74 registrants. The cost of this event was approximately \$5,600. 100% of the proceeds from the Product Show will be contributed to LNMF via ASHRAE Foundation. Towards that end, it should meet our \$15,000 Chapter RP goal for SY 2008-09. Depending on what the outcome of the Golf Tournament will be, we need to raise another \$2,000 or \$4,000 over and above the proceeds from the Golf Tournament in order to meet our \$60,000 LNMF goal.
9. YEA Activities: Alayna indicated that the group tour for the Waihee Water Dike Tunnel will be opened only on T/W/F (none on Saturday). It won't be available for the next 3-4 months. Sam Gillie suggested that, perhaps, we can set-up a Tour of Coconut Island and he will forward the contact information to Alayna.
10. Status of 2009 Main Program / Technical Session:
 1. April 9th: Tab DO & DON'T (Curtis Worley); Back-to-the-Basic: Psychometrics & Its Applications (Trane Pacific, Kevin Saito)
 2. May 14th: DO & DON'T Tech Session (PECO Automation & Controls, Marcia Christiansen); Main Program (Dynamic Facilities, Jay Santos)
11. CTTC (Chapter Technology Transfer Committee): Albert reported that MEH, TEC, DE & ISE should be able to provide us the energy projects submittal for ASHRAE Energy Awards.
12. Past President Write-ups (Historian): Harendra interviewed Boyd Chee and John Gesser.
13. Honors & Awards: Sam Gillie wrote Joel Yuen & Paul Fukunaga to assist them in getting the write-up for the application of ASHRAE Fellow. Marites & Sam should qualify for the Chapter Service Award.
14. New Business:
 - CRC 2009 Annual Report: Joseph will complete this report by next BOG meeting.
 - Installation of Officers Night: Albert & Joseph will do the planning together. Albert will report on the status at next BOG meeting.
 - Chapter Dues: A motion has been moved and seconded. After further discussion, majority of the members have agreed to raise the chapter dues from \$20 to \$25.
15. Meeting adjourned at 12:50 PM.

JOB OPPORTUNITIES – Energy Resource Manager for PACAF

The principal function of this position is to project manage and develop, oversee, manage, and train personnel in the procedures to comply with Department of Defense energy policies.

The Energy Resource Manager will provide the following services:

- Review and/or develop energy resource management plans
- provides multidisciplinary design co-ordination and management
- advises and supports local team leaders
- reviews resource performance, management, and policy effectiveness consistent with personnel behavior
- contributes to and provides support to energy resource management, strategies, and procedures
- undertakes assessment of staff and advises on training plans
- Address compliance and provide advice with regard to the following references:
 - Energy Policy Act of 2005,
 - Energy Independence and Security Act of 2007, and
 - National Energy Policy.

Contact: Email Guy Ontai ontai@alakai.us for more information.

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