

ASHRAE

Hawaii Chapter

HE EA MAKAMAE

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

SY 2010-11, Issue #9 HONOLULU, OAHU, HAWAII Apr 2011

PRESIDENT'S MESSAGE – Michael Chang

Aloha ASHRAE Ohana,

See you next week!

Mahalo,
Michael



Chapter Chairperson

Attendance and Reception: John Lau
Technology Transfer: Paul “Scotty” Scott
Programs: Blake Araki, P.E.
Government Affairs: Barry Jim On, P.E.
Refrigeration: Scott La Beau
Technology: Herman Siu
Energy Awards: Bill Lee, P.E.
Historian Joseph Ting, P.E.
Memberships Promotions: Roland Suzuki
Newsletter Editor: Kevin Saito, P.E. LEED AP
Research Promotions : Archibald Makatini
Product Show: Donna Kishi
Technical Seminar: Dean Borges
Student Activities : Alayna Shima
Young Engineers of ASHRAE: Brandon Maeda
Webmaster: Mark Yamamoto, P.E.



Chapter Officers – Society Year 2010 to 2011

President: Michael Chang
President-Elect: Paul “Scotty” Scott
Vice President: Kevin Saito, P.E. LEED AP
Secretary: Barry Jim On, P.E.
Treasurer: Paul Fukunaga, P.E.

Chapter Board of Governors

Blake Araki, P.E.
Albert Hahn, P.E. (Immediate Past President)
Donna Kishi
Scott La Beau
Bill Lee, P.E.
Dr. Melek Yalcintas, P.E.

May 2011

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
				Chapter Meeting Research Promotion Night		
15	16	17	18	19	20	21
22	23	24	25	26	27	28
				Chapter BOG Meeting		
29	30	31				
						

Announcements:

- ✓ Job Openings at Coffman Engineering, Bowers + Kubota Consulting, Economy Plumbing and Sheetmetal, and Hawthorne Pacific (see Employment Opportunities tab on Chapter web page.)

Next Board of Governors

Meeting:

Date: 26 May 2011 (Thurs)

Time: 11:30 am

Location: 1132 Bishop Street, Suite 1800 (Hawaii Energy Offices)

Treasure Hunt!!!



The Chapter is looking for the oldest:

- *Consulting engineering firm.*
- *Installed controls system*
- *Installed AC system*
- *Longest ASHRAE membership in Society/Chapter*

Upcoming Chapter Meetings:

9 Jun - The Outrigger Club, 5:30pm (Installation Night)

Mother's Day

Memorial
Day

Upcoming BOG Meetings:

(1132 Bishop Street, Suite 1800
Hawaii Energy Office at 11:30 am)

26 May 2011

23 Jun 2011



NEXT CHAPTER MEETING

Date: 12 May 2011 (Thursday)

Where: The Willows Restaurant (901 Husten Street, Phone (808)952-9200)

Registration: Starts at 5:30 pm. (Contact John Lau johnlau808@gmail.com to RSVP)

Technical Session: Starts at 6:00 pm (2011 ASHRAE Student Design Competition)

Dinner: Starts at 7:00 pm (buffet)

Main Program: Starts at 7:30 pm Mr. Bob Cline ("Advanced VAV System Design and Modeling with VAV Diffusers")

Adjournment: 9:00 pm

Cost: \$45 per ASHRAE member; \$50 per guest; \$55 at the door registration. (Use the PayPal button on our Chapter web site for convenient payment.)

**Research
Promotion Night**

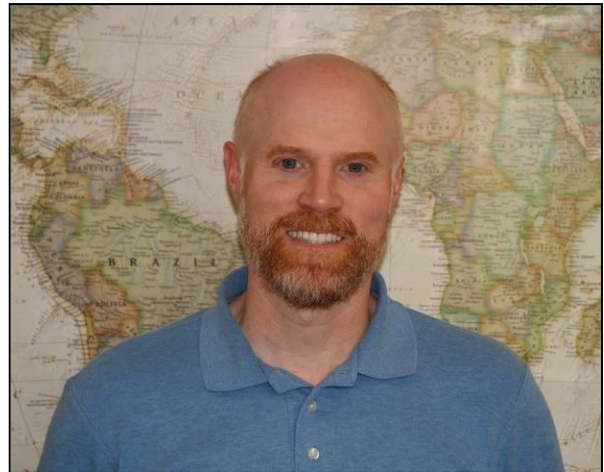


ASHRAE Hawaii Chapter – May 2011 Program

Speaker: Bob Kline, Engineering Manager, Acutherm

“Advanced VAV System Design and Modeling with VAV Diffusers”

Bob Kline is the Engineering Manager with Acutherm, the market leader in VAV diffuser systems. Since joining Acutherm, Mr. Kline has been involved in virtually every aspect of product development, product support and primarily product application and system design. Prior to joining Acutherm, Mr. Kline worked as a field engineer supervising the testing of offshore oil wells and as a project engineer coordinating the design and manufacture of process electric heaters. A graduate of the University of Michigan, where he earned a Bachelors of Mechanical Engineering, Mr. Kline is also a member of ASHRAE, ASME and a LEED Accredited Professional.



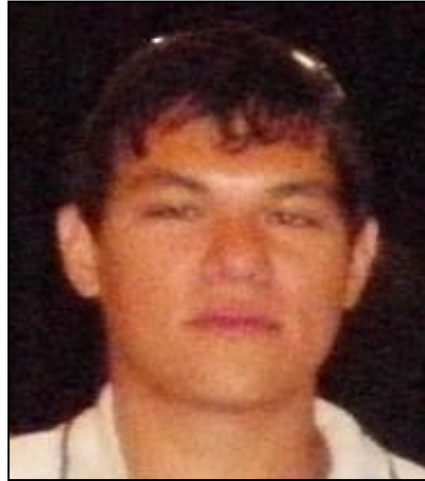
Payment can be made via PayPal at <http://hawaii.ashraechapters.org>
Otherwise, make check payable to **ASHRAE Hawaii Chapter**.

Technical Session: HVAC Design for The Drake Museum at Titusville, Pennsylvania

This month's technical session will feature the presentation of our students from University of Hawaii at Manoa (UHM). This presentation, which is basically the 2011 ASHRAE Student Design Competition, is the final design project submittal that is part of their curriculum requirements to complete the UHM ME Course 417 (Applied Thermal Engineering) as senior students or as graduate students, in order to obtain their matriculated degree in Mechanical Engineering.



Ike Nakamine



Willie Diguc



Kaveh Khosroshahi

This year's project is the Drake Well Museum, which was built to showcase the history of oil drilling. The Drake Oil Well was the first oil well drilled for the purpose of finding oil. Previous oil wells were drilled in the search for water and normally capped off. At one point, Pennsylvania was responsible for half the world's production of oil. The museum is a one story 16,000 square feet building with varying ceiling heights. It showcases both old oil drilling machinery and old photographs.

The 2010 Fall Semester of ME 417 class consisted of two design teams working to come up with the "best" solution for the museum. Special considerations were made for rooms such as the photography processing dark room and the "collections room". ASHRAE Standards 15, 55, 62.1, and

90.1 were used as guidelines for the design. The ASHRAE Applications Handbook was also utilized for the "collections room".

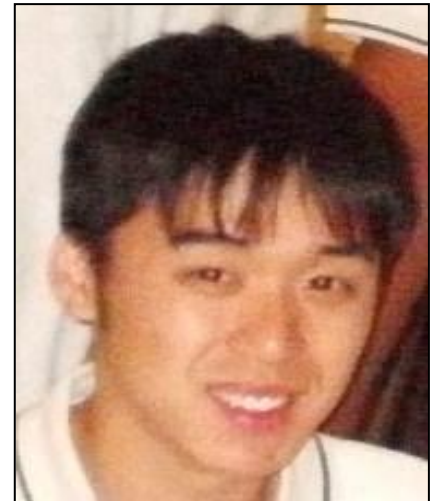
With the assistance of Professor Ting and Mofazzal Mir of InSynergy Engineering Inc, the students utilized the Trane Trace 700 software to obtain the heating and cooling loads of this museum in Titusville, Pennsylvania.



Elad Ngujede



Ray Au



Kinkei Wu

The results of the heating and cooling load calculations were then checked against the 'first crack' estimates to ensure the results weren't absurd. Three



Gilbert Ignacio

different designs were considered, one with the lowest initial cost, one with the lowest life cycle cost, and the last was a combination of the two.

In designing and selecting a system for any projects, there are many aspects to think about and many



Randee Chang

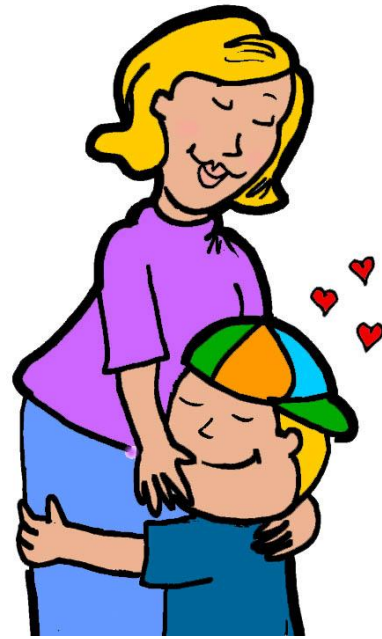
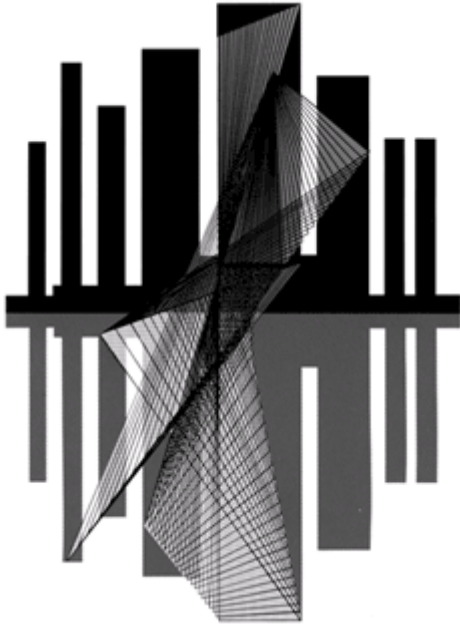
decisions to be made, including but not limited to the indoor air quality, energy conservation, and system selection. Outdoor conditions, building

envelope, room type, location of rooms and the activities that will be performed in the various rooms play a big part in the decision making.

A cost analysis was performed between different systems including their operating and maintenance costs prior to the final system selection. The goal of the cost analysis was to find a cost effective and efficient system that would still meet the needs of the museum.

The process of analyzing the requirements, designing a system, and selecting equipment for the system has helped broaden the students' views on the HVAC&R industry. The project helped develop a better understanding on how important HVAC&R systems are, how they are selected, and how they are integrated.

Technology Awards Program



We are pleased to announce our ASHRAE Hawaii Technology Award winners for 2011. The ASHRAE Technology Awards recognize outstanding achievements by members who have successfully applied innovative building design in the areas of occupant comfort, indoor air quality and energy conservation. Their designs incorporate ASHRAE standards for effective energy management and IAQ. Performance is proven through one year's actual, verifiable operating data.

Our chapter winners are:

Project: SSFM Office Solar Cooling System

Owner: SSFM International Inc.

Mechanical and Electrical Engineer Firm: **InSynergy Engineering Inc.**

Category: Existing Commercial



This project was the pioneer project in solar thermal AC field in State of Hawaii. The project demonstrates that it is effective to use solar thermal energy as an alternative energy source for air conditioning systems helping to offset the rising building energy costs.

The air conditioning system at the SSFM facility is the largest consumer of electricity accounting for roughly 45% of the total electrical load. Based on the monitored energy consumption data after the completion of this project, the solar cooling system reduces the facility electricity demand by more than 28kW on average, and will save 76,800 kWh/year and \$16,900/year in cost. The simple net pay-back is 11 years after taking state and federal tax credit.

Project: Waikoloa Kings' Land Clubhouse

Owner: Hilton Grand Vacation Club

Mechanical Engineer: **Beall & Associates, Inc.**

Category: New Commercial



The Waikoloa King's Land Clubhouse is a new facility located at Waikoloa on the Big Island of Hawaii. The 36,658 square foot (19,336 enclosed area) Clubhouse serves the King's Land timeshare development operated by Hilton Grand Vacation Club.

In addition to LEED Silver certification, the project includes a mechanical system where heat to be rejected by the air conditioning systems is used to provide pool heating. This system saves the installation and operating costs of cooling towers, reduced pool heating energy required and saves significant amounts of fresh water.

Building energy modeling in accordance with ASHRAE 90.1 Appendix G shows that the building saves over 30 percent of the energy that would be consumed by a facility designed in accordance with ASHRAE 90.1. However, since the large swimming pools were not part of the Clubhouse project, their energy use was not included in the model.

Since the air conditioning heat rejected to the swimming pools reduced the energy required from the LPG Pool Boilers, the energy savings for the project is even greater. Rejecting heat from the air conditioning systems to

the pool means not having to add heat using liquid petroleum gas boilers. An additional energy model was done using a standard cooling tower to quantify the annual heat rejection. Equating this to energy that did not have to be added from boilers shows that the revised energy savings is over 66 percent and a cost savings of over 44 percent.

Project: USS Arizona Memorial Visitors Center

Owner: U.S.National Park Service

Mechanical Engineering Firm: **Mechanical Engineers of Hawaii Corporation**

Category: Public Assembly



This \$58 million project included a complete tear down and replacement of the USS Arizona Memorial Visitor Center. The project consists of construction of two theaters, two large exhibit buildings, welcoming lobby, ticketing counter, classroom building, education center, bookstore, office building, gift shops and toilet facilities. The memorial was expanded 55 percent (from 11 acres to 17 acres) on the area's waterfront. The total new built area, shaded and enclosed is approximately 54,900 square feet.

This project utilized a number of "green" features to create a more environmentally friendly facility overall. Since many facilities including the bookstore, education center, ticketing counter and exhibit buildings have open-air designs, air conditioning is limited and Hawaii's trade winds are used to create natural, passive ventilation. When the trade winds are not present exhaust fans are used to pull air inside and ceiling fans also help to move more air through the space. This movement of air provides the thermal comfort occupants require in order to feel comfortable in the space. In keeping energy costs to a minimum, trade winds continue to keep the floors and walls cool throughout the night and during the day large roofs provide shade and protection from direct sun. This innovative, energy efficient design allowed the energy bill to be cut by approximately 47 percent.

High-efficient water fixtures such as automatic, low-flow lavatories and waterless urinals are installed throughout the complex to reduce potable water consumption. With these new fixtures, an estimated 800,000 gallons of water is conserved annually.

NOMINATING COMMITTEE

Election Night – May 12, 2011

In accordance with our Bylaws Article 7, the Nominating Committee consisting of Albert Hahn, Marites Calad, Paul Fukunaga, Joseph Ting & Victor Russell have selected the members, who are eligible to hold office: one candidate for each office plus five (5) members for a total of ten (10) on the Board of Governors (BOGs). The Nominating Committee also obtained from each candidate his/her consent to stand for election. The Committee is hereby presenting the slate of BOGs for Society Year 2011-12 to our Secretary as well as to the Chapter Membership the candidates. The slate is hereby published in our March & April newsletters.

Note that additional nominations of members in good standing who consent orally or in writing to be candidates may be made from the floor at such meeting as per our Chapter Bylaws 7.4. If at this meeting, more than one such nomination from the floor is made for any one office or membership on the Board of Governors, a vote shall be taken to select the name of the opposition candidate to be placed on the ballot.

That being stated, a list of the candidates is prepared for all members with voting rights prior to our May meeting. Included in this newsletter as shown below is the ballot. You may exercise your voting rights by mail or in person at the meeting. Please vote the entire slate of officers as recommended by the Nominating Committee, scan this sheet after signing and dating it, then forward it to our Secretary, Barry Jim On at bjimon@insynergyeng.com. Otherwise, fill-in the name of additional nominations as per Chapter Bylaws 7.4 and present them when the nomination is opened from the floor at the May 12 monthly meeting.

_____ Entire Slate of BOGs

OFFICERS:

- _____ 1. President: Paul Scott
- _____ 2. President-elect: Kevin Saito, P.E.
- _____ 3. Vice-President: Barry Jim On, P.E.
- _____ 4. Secretary: Blake Araki, P.E.
- _____ 5. Treasurer: Donna Kishi

Nomination from the floor

BOARD OF GOVERNORS:

- _____ 1. Michael Chang, Immediate Past President
- _____ 2. Alayna Shima
- _____ 3. Mofazzal Mir, P.E.
- _____ 4. Scott LaBeau
- _____ 5. William Lee, P.E.

I, the undersigned, do hereby vote for the slate of BOGs as presented by the Nominating Committee. Should additional candidates are nominated from the floor, I do hereby appoint my proxy, Michael J. Chang, current President or a good standing chapter member, _____ who will be attending the said May 12 meeting to vote on my behalf.

MEMBER NAME / NUMBER /SIGNATURE

DATE

Chapter Technology Transfer

Please feel free to contact me
ESIKAILUA@aol.com if you have any issues
pertaining to chapter programs, technology,
energy, refrigeration and governmental affairs
that need my attention immediately. **Otherwise,**
contact the following chairperson for the various sub-committees:



1. Chapter Programs Chair Blake Araki - blakea@hawaii.edu
2. Technology Chair Herman Siu - hsiu@trane.com
3. Energy Awards Chair William Lee – leeb@coffman.com
4. Refrigeration Chair Scott LaBeau - scott.labeau@dmghvac.com
5. Governmental Affairs Chair Barry Jim On -
bjimon@insynergyeng.com

Let us know if you have any technical subjects that we should consider for
our monthly meetings.

Mahalo. *Scotty.*



HAWTHORNE

Hawthorne Pacific Corp.

Job Posting – 4/27/11**Current Career Opportunities:**

EPG Sales Representative (Power Systems) – FT, Bachelors degree in Engineering or Business or equivalent or 5-10 yrs. related experience & or training required. Minimum 3 yrs. experience w/EPG equipment sales in the construction /electrical industry. Sell all diesel & spark-ignited engines as standby or prime application products / projects to customers. Provide technical information on products, review plans and requirements, prepare quotes, generate leads for rentals & maintenance contracts. Must be able to travel. Salaried – Exempt **(Waipahu)**

Project Manager (Power Systems) – FT, High school diploma or equivalent required, Bachelors degree in Engineering preferred. Will manage the sales & delivery process of new engines projects. Prepares & maintain cost proposals, submittals, & schedules, performs engineering analysis & design of custom packaged engine systems using Caterpillar, Olympian or other manufacturer's installation / application guidelines. Must be able to multi task; office & field work responsibilities. Salaried – Exempt **(Waipahu)**

Branch Coordinator - FT, High school diploma or equivalent, minimum 2 yrs. experience in a similar business. Reports to the General Service Mgr.; responsible for the daily operations of Kona Branch, provide supervision, handles facilities management, & employee and customer relations. Develops parts/service sales opportunities w/new & existing customers. Must have excellent communication skills, the ability to multi-task, and proficient in Microsoft Office. Salaried – Exempt **(Kona)**

Shop Clerk - - FT, High school diploma or equivalent, with a minimum of one year office experience preferably in a service shop. Provides clerical support; open/close work orders, purchase orders, research/reconcile invoices, works w/DBS system. Interacts with customers and team members, must have excellent communication skills, able to multi-task, and proficient in Microsoft Office. \$13.53-\$16.50 per hr. **(Kona)**

Technician II / III (Heavy Shop)- FT, High school diploma or equivalent, minimum 5 yrs. experience (Tech II) and 7 yrs. experience (Tech III) in the repair & maintenance of heavy duty earth moving equipment required. Must be able to troubleshoot & diagnose causes of equipment failure, performs necessary repairs within established time limits, make warranty recommendations and assist with training team members. Keep work area organized, inspects all repairs in progress & upon completion to insure quality, & must be able to maintain a positive business relationship with all customers, suppliers and team members. Must have excellent communication skills & be able to multi-task. \$30.92 / \$33.81 per hr. **(Waipahu)**

Lead Person (Heavy Shop) - FT, High school diploma or equivalent, minimum 7 yrs. experience in the repair & maintenance of heavy duty earth moving equipment required. Ability to diagnose causes of equipment failure, performs necessary repairs within established time limits, ability to train, delegate & supervise team members required. Organizes work & inspects all repairs in progress & upon completion to insure quality; ability to maintain a positive business relationship with our customers, suppliers and team members. Must have excellent communication skills & be able to multi-task. \$36.06 per hr. **(Waipahu)**

Service & Maintenance Technician (Construction Sales) – FT, Temporary position with possibility of becoming permanent. High school diploma or GED equivalent; or 6 mo.-1 yr. related experience and/or training; or equivalent combination of education & experience. Must have good working knowledge of MS Office programs, forklift certified w/valid Class 3 (Hawaii Drivers license) & safe driving record required. Reports to Sales Operations Mgr.; completes cleaning & preventive maintenance duties on generators, trailers, forklifts and heavy equipment. Inspects incoming equipment, verifies return condition/damages. Performs minor repair duties as needed; must be able to lift up to 60 lbs. \$15.48 per hr. **(Waipahu)**

Inside Sales Representative (Sales) – FT, High school diploma or equivalent required, with college degree preferred. The primary goal of this position is to generate qualified sales leads and establish a sales pipeline in the areas of CAT products, Allied equipment, product support & services and other related products. Minimum 3 yrs. experience in product support & sales preferred. Excellent verbal & written communication skills required, able to multi-task and goal oriented. Must be proficient in Microsoft Office Suite. Salaried – Exempt **(Waipahu)**

Salesperson, Ag & Turf (Sales) - FT, High school diploma or equivalent, w/minimum 2 yrs. experience in turf maintenance equipment sales & service environment. Must be willing to travel off island (25%), have good working knowledge of MS Office programs, & excellent customer relations skills. Represents Club Car, Toro, Morbark products to new & existing accounts, makes sales presentations. Salaried – Exempt **(Waipahu)**

Detailed job descriptions are available in Human Resources. All interested in-house candidates must submit their completed Internal Job Application form to Human Resources. The Internal Job Application form is available in Sharepoint under Human Resources / Shared Documents folder. All other candidates are required to go to www.hawthornehiring.com & complete our application form online.