



March 2015

THE LONG ISLAND SOUNDER



ASHRAE Long Island Chapter, Region 1...Founded in 1957

www.ashraeli.org

American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.

Inside this issue:

President's Message	1
LI Chapter Officers	2
BOG Meeting Minutes	3,4
Meeting Schedule	5
LI Past Presidents	6
PAOE	6
Programs	7
Student Activities	8
YEA	8
Research Promotion	9
CTTC	10,11
Membership	12
History	13,16
February Meeting Photos	14,15
Golf Outing 2015	17-19
Free ASHRAE Webcast	20
ASHRAE Ticket Books	20
Classifieds	21,22
Advertisements	23-26

President's Message

It's still snowing! If you made it to the Islanders game you know it was a fun night and it was even warm inside the stadium. It has been a real test of our heating systems this winter hasn't it. Have many of you discovered that those systems designed to save energy have had problems keeping up with the heat loss? Does that 15°F outside temperature design work when it goes down to 0°F out and the wind is blowing? You don't hear those words "just oversize it" much these days with all of the energy saving solutions going around. We should all be giving good feedback to the various handbook committees if you have found that we need a little more meat in our systems to get us through those days that exceed design criteria. Our designs are based on approximations and averages but even at the cost of expending more energy we need to meet those peak days.



If you celebrated Engineers week last month by going to the EJCLI seminar series day on Feb 12th I am sure you learned something or at least have formulated some questions about designs. I walked away with 12 PDH's and am almost set for the year now.

If you want to be thinking some warm thoughts see the attached flyer for this year's Golf Outing. It's Monday May 4th and checks must be in by April 10th. Don't forget it fills up very quickly and you don't want to miss it.

Our March meeting will be a lecture on "Plates and Frames" by Chris Abbot. I assume we are not talking about printing money although it might be easier than earning it the hard way. It will be a YEA night also so it would be a good night to bring down those young perspective members and new people from the office.

Thank you to Jack Conway for his interesting presentation on Air Distribution and Surgical Suites last month. I hope I don't need an operation soon as all I can see when I close my eyes and think about those operating rooms is the dust and dirt blowing around and around in the room. Jack did say to call him for a list of the good rooms right?

As always, I wish to thank all the volunteers and board members, I appreciate all your time and dedication to our chapter and community. We look forward to seeing everyone at the March Meeting and thank you for your continued support of the Long Island Chapter of ASHRAE.

Richard L. Rosner, P.E.
President - Long Island Chapter

CHAPTER MONTHLY MEETING

DATE:	Tuesday, March 10, 2015
TIME:	6:00 PM - Cocktails/Dinner 6:45 PM - Dinner Presentation 8:45 PM - Conclusion
LOCATION:	Westbury Manor South Side of Jericho Tpke. 25 Westbury, NY 11590
FEES:	
Members -	\$40.00
Guest -	\$45.00
Student -	\$15.00

Reservations requested, but not required.

Call (516) 333-7117

Long Island Chapter Officers & Committees

ASHRAE 2014/2015 OFFICERS

POSITION	NAME	PHONE	FAX	EMAIL
President	Richard Rosner, P.E.	631.737.9170	631.737.9171	president@ashraeli.org
President-Elect	Thomas Fields, P.E., LEED AP	212.643.9055	212.643.0503	president_elect@ashraeli.org
Vice President	Charles Lesniak, P.E.	516.484.1020	516.484.0926	vice_president@ashraeli.org
Financial Secretary	Don Kane, P.E.	631.737.9170	631.737.9171	finsec@ashraeli.org
Treasurer	Andrew B. Dubel, P.E.	212.967.7651	212.967.7654	treasurer@ashraeli.org
Secretary	Richard Halley	718.269.3809	718.269.3725	secretary@ashraeli.org
Board of Governors	Lee Feigenbaum, LEED AP BD+C	212.243.2555	212.924.7148	bog1@ashraeli.org
Board of Governors	Frank Paradiso	631.632.2791	631.632.1473	bog2@ashraeli.org
Board of Governors	Ken Mueller	201.395.3761	763.231.6924	bog3@ashraeli.org
Board of Governors	Andrew Manos, LEED AP	631.632.2791	631.632.1473	bog4@ashraeli.org

ASHRAE 2014/2015 COMMITTEES

COMMITTEE	NAME	PHONE	FAX	EMAIL
Programs & Special Events	Thomas Fields, P.E., LEED AP	212.643.9055	212.643.0503	programs@ashraeli.org
Membership	Lee Feigenbaum, LEED AP BD+C	212.243.2555	212.924.7148	membership@ashraeli.org
Chapter Technology Transfer (CTTC)	Don Kane, P.E.	631.737.9170	631.737.9171	cttc@ashraeli.org
Grassroots Government Activities Committee	Charles Lesniak, P.E.	516.484.1020	516.484.0926	ggac@ashraeli.org
Newsletter Editor	Liset Cordero	212.643.9055	212.643.0503	editor@ashraeli.org
Research Promotion	Andrew Manos, LEED AP	631.632.2791	631.632.1473	rp@ashraeli.org
Historian	Andrew B. Dubel, P.E.	212.967.7651	212.967.7654	historian@ashraeli.org
Student Activities	Richard Halley	718.269.3809	718.269.3725	sa@ashraeli.org
Young Engineers in Training	Frank Paradiso	631.632.2791	631.632.1473	yea@ashraeli.org
Webmaster	Richard Rosner, P.E.	631.737.9170	631.737.9171	web@ashraeli.org
Nominating	Michael Gerazounis, P.E., LEED AP	212.643.9055	212.643.0503	nominating@ashraeli.org
Reception & Attendance	James Hanna Ken Mueller	718.269.3768 201.395.3761	718.269.3794 763.231.6924	reception@ashraeli.org
PR & Engineering Joint Council of LI	Andrew Manos, LEED AP	631.632.2791	631.632.1473	pr@ashraeli.org
2014 CRC Committee	Richard Halley	718.269.3809	718.269.3725	CRC@ashraeli.org
Golf Outing	Peter Gerazounis, P.E., LEED AP Steven Friedman, P.E., HFDP, LEED AP	212.643.9055 212.354.5656	212.643.0503 212.354.5668	golf@ashraeli.org

ASHRAE LI, P.O. Box 79, Commack, NY 11725

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BOG Meeting Minutes

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

BOG Meeting, Long Island Chapter

Tuesday Feb 10th, 2015

5:00 – 6:00

Westbury Manor, Westbury, NY

(**PAOE** *Min/PAR/Current/High Last Year*)

Call to Order At 5:09 by Chapter President Rich Rosner

First roll call showed 6 Members - Rich Rosner, Don Kane, Rich Halley, Andy Manos, Frank Paradiso and Brian Simkins (Guest)

Secretary (Rich Halley)

June 2014 Minutes Still Pending

January Minutes reviewed with no changes

Motion to Approve - Andy Manos, Second – Frank Paradiso

President (Richard Rosner)

PAOE 400/1000/**1340**/3765

Rich requested that each board member make sure to update PAOE points every month, we have been falling behind the leader and are not taking credit for the many activities that we have already completed. Please put a push to get all earned points entered

President-Elect/Programs (Thomas Fields)

Still waiting on LI- GEO to get back on joint meeting

Field trip (Complete yearly calendar)

Looking for Sponsors for cocktail hour please contact Tom with interest

Islanders night – Date February 19th Looks like we have a good turn out with a few more requests coming in.

Chapter Technology Transfer (Don Kane)

PAOE 450/1050/795/3765 – PAOE

Field Trip – Working with Chris Johnson at Air Products, looking for a cryogenic refrigeration site to visit.

Chapter Income Tax Filing for FY 2013-2014 is complete and was mailed to IRS February 9th

Treasurer (Andrew Dubel)

Budget is complete and still needs to be approved

Balance in the general fund \$ 12,373.75 less tonight's expenses of \$ 310 leaving an ending balance of \$ 12,063.75. it was noted that \$ 2,500.00 needs to be transferred into the CRC account.

Don is working on newsletter invoicing and should have invoices sent out next week

Grassroots Government Activities (Charles Lesniak)

No Report

Historian (Andrew Dubel)

PAOE 100/300/175/600

Need to update points

Carl E Graber, PE interview with the family is in the works

BOG Meeting Minutes (Cont'd. from Page 3)**Honors and Awards Chair (Brian Simkins)**

Brian is working on a slate of nominations this year will have more to report in March

Research Promotion (Andy Manos)

PAOE - 800/1050/795/2964

30% goal was met.

The Vendor Book is almost complete and Andy is calling donors every Month. Looking to finalize next month

Membership Promotion (Lee Feigenbaum)

PAOE - 500/800/425/1260

No Report **Student Activities (Richard Halley)**

PAOE 300/500/295/1902

Need to update points as we have many to add

Student Night tonight we are expecting 12 Students from our Student Chapters and Professor Eugen Silberstein for the SCCC Chapter

Rich is working on an updated e-mail list of all new students and will have it done by March BOG Meeting

YEA (Frank Paradiso)

Leadership Retreat will be held in San Diego

YEA night is scheduled for February 24th at Dave and Busters

Web Master (Richard Rosner)

Need new annual articles from chairs. Please make sure that you are up to date

CRC 2017 (Richard Halley)

Rich is working with the planner on locations that will fit our needs. We should have a slate ready for the March Meeting

Golf (Steven Friedman, Peter Gerazounis)

May 4th, 2015 Cherry Valley

Old Business

None

New Business

Newsletter articles due two weeks before next meeting or after last meeting

February is National Engineers Week.

New student member Robert Tschoke is building for Habitat for Humanity as we speak in Costa Rica and will be giving us a report. He is back and will be sending photos.

Second Role Call









Second roll call showed 9 Members - Rich Rosner, Don Kane, Rich Halley, Andy Manos, Frank Paradiso, Andrew Dubel, Brian Simkins, Lee Feigenbaum and Thomas Fields

Motion to adjourn At 5:59 by Don Kane 2nd by Andrew Dubel

Time/Place of next BOG Meeting – March 10^h, 2015. Westbury Manor

Motion to Adjourn

Chapter Monthly Meeting - Program for 2014/2015

<p>September 9, 2014 * At Westbury Manor </p> <p>Dinner Presentation – New Advances in High Efficiency Cooling for Data Centers Presenter - Dave Smith **1 PDH**</p> <p>Membership Promotion Night</p>	<p>February 2015 </p> <p>NATIONAL ENGINEERS WEEK</p> <p>Engineers Seminar Series February 12, 2015</p>
<p>October 14, 2014 * At Westbury Manor </p> <p>Dinner Presentation – Variable Frequency Drives and Motor Considerations Presenter - Gail O'Keefe **1 PDH**</p> <p>Back to Basic Session I - Evans Lizardos **1 PDH** "Smoke Purge System Design"</p>	<p>March 10, 2015 * At Westbury Manor</p> <p>Dinner Presentation – Plate/Frames Presenter - Chris Abbot **1 PDH**</p> <p>Joint meeting with LI-Geo / YEA Night</p>
<p>November 11, 2014 * At Westbury Manor </p> <p>Dinner Presentation – HVAC Air Distribution System Efficiency Presenter - Eli Howard **1 PDH**</p> <p>Resource Promotion Night Joint meeting with SMACNA Student Activities Night & YEA Night as well as Membership Promotion and Upgrade Night</p>	<p>April 14, 2015</p> <p>ANNUAL FIELD TRIP - TBD</p>
<p>December 9, 2014 * At Westbury Manor </p> <p>HOLIDAY PARTY Free Buffet Dinner for Members</p>	<p>May 4, 2015 * Cherry Valley Club, Garden City, NY</p> <p>ANNUAL GOLF OUTING</p>
<p>January 13, 2015 * At Westbury Manor </p> <p>Dinner Presentation – "The Steam Kettle" The Generation and Control of Steam for Space Heat and Process Presenter - Paul Peck **1 PDH**</p> <p>Back to Basic Session II - Evans Lizardos **1 PDH** "Pipe Designs for Control of Temperature and Flow in Water Systems"</p>	<p>May 12, 2015 * At Westbury Manor</p> <p>Dinner Presentation – Responsible Use of Refrigerants Presenter - Julian de Bullet **1 PDH**</p> <p>ASHRAE DISTINGUISHED LECTURER</p> <p>Back to Basic Session III – Evans Lizardos **1 PDH** "Energy Requirements for Different Refrigerant Systems"</p> <p>Student Activities Night / Refrigeration Night</p>
<p>January 24-28, 2015 </p> <p>ASHRAE Winter Meeting Palmer House Hilton Chicago, IL</p>	<p>June 9, 2015 * At Westbury Manor</p> <p>Free Buffet Dinner for Members</p> <p>PAST PRESIDENTS NIGHT & OFFICER INSTALLATION STUDENT SCHOLARSHIPS TO BE AWARDED ASHRAE History Quiz and prize Give-A-Ways</p>
<p>February 10, 2015 * At Westbury Manor </p> <p>Dinner Presentation – Air Distribution and Surgical Suites Presenter - Jack Conway **1 PDH**</p> <p>Joint Meeting with USGBC Research Promotion Night / Membership Promotion Night /</p>	<p>August 2015</p> <p>Chapter Regional Conference (CRC) Region I Syracuse Chapter Hosting August 20-22, 2015</p>

Long Island Chapter - Past Presidents

1958	H. Campbell, Jr. PE	1986	Jerome T. Norris, PE
1959	Clyde Alston, PE	1987	Abe Rubenstein, PE
1960	Sidney Walzer, PE	1988	Michael O'Rourke
1961	Sidney Gayle	1989	Mel Deimel
1962	William Kane	1990	Robert Rabell
1963	Louis Bloom	1991	Gerald Berman
1964	Milton Maxwell	1992	Donald Stahl
1965	Will Reichenback	1993	Ronald Kilcarr
1966	Joseph Minton, PE	1994	Jerald Griliches
1967	Irwin Miller	1995	Walter Stark
1968	Walter Gilroy	1996	Joe Marino
1969	Charles Henry	1997	Norm Maxwell, PE
1970	William Wright	1998	Alan Goerke, PE
1971	Louis Lenz	1999	Frank Morgigno
1972	Ronald Levine	2000	Michael Gerazounis, PE, LEED AP
1973	Henry Schulman	2001	Ray Schmitt
1974	Myron Goldberg	2002	Steven M. Stein, PE
1975	John N. Haarhaus	2003	Andrew Braum, PE
1976	Richard K. Ennis	2004	Claudio Darras, P.E.
1977	Kenneth A. Graff	2005	Craig D. Marshall, P.E.
1978	Evans Lizardos, PE, LEED AP	2006	John Nally
1979	Albert Edelstein	2007	Peter Gerazounis, PE, LEED AP
1980	Ralph Butler	2008	Steven Friedman, PE, HFDP, LEED AP
1981	Robert Rose, PE	2009	Steven Giammona, P.E., LEED AP
1982	Timothy Murphy, PE	2010	Nancy Román
1983	Leon Taub, PE	2011	Carolyn Arote
1984	Raymond Combs	2012	Brian Simkins, LEED AP
1985	Edward W. Hoffmann	2013	Andrew Manos, LEED AP BD+C



PAOE POINTS FOR 2014/2015

350Chapter Members	Membership Promotion	Student Activities	Research Promotion	History	Chapter Operations	CTTC	GGAC	Chapter PAOE Totals
282	530	295	895	175	1,340	1,070	425	4,730

March Program



Dinner Presentation

***“Hydronics: Most Frequent Questions,
Comments, Concerns”***

Presented by

Chris Abbott
Wallace-Eannace Associates

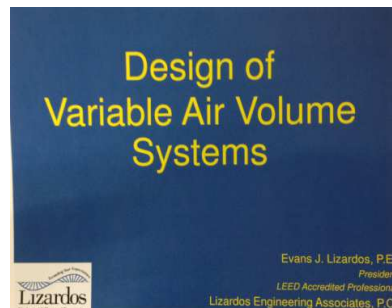
**Attendees
Will Earn
1 PDH!**

DATE:	TUESDAY, MARCH 10, 2015		
Time:	6:00 PM - Cocktails and Hors D'oeuvres 6:45 PM - Dinner Presentations 8:45 PM - Conclusion	Fee:	\$ 40.00 Member \$ 45.00 Guest \$ 15.00 Student
Location:	WESTBURY MANOR (516) 333-7117 Jericho Tpke (South Side), 3/10 of mile east from Glen Cove Rd., Nassau County, NY. Directions are posted at @ www.ashraeli.org.		
Presentation:	This month's presentation covers a somewhat wide range of hydronic topics/products including pumps, plate & frame heat exchangers, expansion tanks, etc. but is focused in on the most common questions that engineers have regarding these products as well as suggested modifications to engineer standard or "boiler plate" specifications and recommended changes to job specific designs. All attendees will receive <u>1 PDH</u>.		
About our Speaker:	Chris Abbott is a Senior Technical Engineer for Wallace Eannace Associates. He has 20 years of experience focused on rotating equipment and fluid and steam handling. Various positions have provided extensive experience with centrifugal chillers, steam turbines, pumps, heat exchangers and fluid and steam system accessories. Clients and markets have included general industrial manufacturers, utility power production, co-generation, chemical processing, pharmaceuticals, hospitals and both government and commercial HVAC buildings. Mr. Abbott is a 1988 graduate of the United States Merchant Marine Academy, Kings Point, NY with a B.S. in Marine Engineering.		

Student Activities

The February LI Chapter meeting was the second Student Night for this year. We had 12 Students in attendance and Facility Advisors Andy Manos and Eugene Silberstein from Stony Brook and SCCC respectively. I would like to thank the membership who spent the time to talk to with students and share some of their experience and knowledge. Our Students were very encouraged and felt the time spent was very valuable as they prepare to enter the work force after graduation. If anyone has a hiring need please contact me and we try our best to fit you with the right student

We would also like to thank Evans Lizardos for spending one of his mornings teaching our students on the "Design of Variable Air Volume Systems". We had 18 Students attend and were very engaged with questions as they dove into this topic.



2014 / 2015 — has been another strong year for the LI Chapter and the Student Chapters but we're not done yet! If you have time to share some of your talents and experience please contact me. Thank you in advance for your support, guidance and mentorship.

Richard Halley
Student Activities Committee Chair

Young Engineers in ASHRAE (YEA)

The Long Island chapter meeting on March 10, 2015. The local chapter meeting is always a great way to learn about what being a member of ASHRAE has to offer and a great place to meet other people in the industry. Keep up to date with some upcoming YEA programs and events as follows:

Presented by the ASHRAE Learning Institute, the HVAC Design Essentials Training allows attendees to gain the fundamentals and technical aspects to design, install and maintain HVAC systems.

To encourage attendance by young professional ASHRAE members, the YEA Institute offers one full scholarship for attendance to the HVAC Design: Level I – Essentials training. The full cost of registration to Level I of this workshop will be covered by ASHRAE.

May 18-20, 2015 in Chicago, IL (deadline for applications is Monday, March 23, 2015)

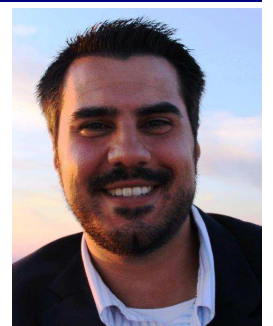
June 15-17, 2015 in Atlanta, GA (deadline for applications is Monday, April 20, 2015)

October 5-7, 2015 in Atlanta, GA (deadline for application is Monday, August 10, 2015)

We will be looking for more ideas for social events so please contact me if you have suggestions.

Be sure to connect with Young Engineers in ASHRAE.

Frank Paradiso
YEA Chairman



Research Promotion

I would like to thank all the companies who have participated in the annual 2015 Product Directory of Manufacturers and their Representatives.

The Product Directory has been prepared as a service to all its members and as a service to the local HVAC industry. It will be made available to all ASHRAE and non-ASHRAE members at no-cost and can be obtained from our monthly meetings or directly from our web-site.

The Directory is intended to provide better communications between manufacturers and their sales representatives; engineers who specify products; contractors who purchase and install the equipment; and other interested parties. Product Directory listings are not limited to ASHRAE members and the listings are not to be considered as advertising or endorsement by ASHRAE of any product, manufacturer or representative.

This year's overall resource promotion goal is \$2,208,050 with over 75 research projects on board. Our chapter is expected to raise approximately \$15,300 towards the overall goal of which we have already raised \$7,500. I am hoping I can count on the continued support of all of our past contributors who have generously supported us over the years. I also look forward to gaining the support of new contributors this coming year. Please help support ASHRAE in any way you can.

I would like say 'thank you' to all the contributors listed below whom have already donated to ASHRAE this year:

INDIVIDUALS

Mr Andrew B Dubel, PE	Mr Lee Feigenbaum
Mr Andrew E Manos, LEED AP	Mr Marcel A Bally
Mr Charles J. Lesniak, PE	Mr Michael Gerazounis, PE, LEED AP
Mr Donald Kane, PE	Mr Richard I Halley
Mr Frank Morgigno	Mr Richard Pearson, PE, LEED AP
Mr Frank Paradiso	Mr Richard L Rosner, PE
Mr James Tauby	Mr. Ricky Gaska
Mr John D Nally	Mr Ronald J Kilcarr, PE
Mr Kenneth T Mueller	Mr Thomas Fields, PE, LEED AP

COMPANIES

Accuspec Inc.	Metro Air Products
Building Cooling Systems	Mitsubishi
Carrier	PVI / Riverside Hydronics
Catan Equipment Sales	Technical Air Systems, Inc.
Daikin	Vitaolic
Dagher Engineering	
Gil-bar Industries	
Mason East	



CONTRIBUTIONS CAN BE MADE IN THE FOLLOWING WAYS:

1) You can mail your checks, made out to ASHRAE Research Promotion, to:

Andrew Manos
ASHRAE Research Promotion Chair
c/o Stony Brook University
Research and Support Services, Suite 160
Development Drive
Stony Brook, NY 11794-6010

2) You can bring your check to any of the meetings and give it to me. I will mail it into headquarters.

3) You can contribute via PayPal from the ASHRAE LONG ISLAND web site, just click on the donate button.

4) You can contribute directly on-line. www.ashrae.org

*** Please make sure you accredit your contribution to the LONG ISLAND CHAPTER 006 ***

Thank you again for all of your support!

Andrew Manos, LEED AP BD+C
Research Promotion Chair



CTTC - Heat Exchangers - From One BTU To Another

While many of the building blocks of comfort conditioning can be traced back (at least on the "heating" side of the ledger) to shortly after man discovered how to start a fire, heat exchangers seemed to follow quite a bit later. Why is it that for years civilization kept their abodes warm and toasty (or at least a comfortable margin above outside ambient) without suffering due to the lack of heat exchangers? Charging up our flux capacitor and pointing our DeLorean DMC-12 to an earlier time would show that the heating plant of choice for many years was the fireplace; sometimes used as a multipurpose device to both cook and heat, sometimes used solely for keeping the cold at bay. We would notice, travelling in our stainless steel time machine, that homes seem to have a plethora of chimneys, as the heat output from each fireplace was delivered only to the room in which it was located. One might even argue that the earliest form of heat exchanger (though not the fluid-to-fluid or fluid-to-air types we are most familiar with today) was the brick. Since not all rooms in the houses at the time had a fireplace, it was not uncommon to place one or more bricks or large stones in the fire place and, prior to retiring for a night's rest, to place the heated bricks/stones at the foot of one's bed, providing some degree of warmth. This, clearly, solved one problem; that of the BTU's being in the wrong room, but was certainly not a complete solution. By having to have a multitude of fireplaces or stoves in order to keep the residences warm, the indoor air quality suffered, as the fuels in use were wood, coal or, perhaps, even peat. In some primitive locales the fuel of choice (also used as a structural element in some cases) was dried dung. One only has to visit Plimouth Plantation, in Massachusetts, to experience interior air so thick with combustion byproducts that, had Social Security existed then, there would be no concern over it going broke... as living past 30 years of age was the exception. We are somewhat jaded today, living in a world where buildings routinely comply with the requirements of ASHRAE 62.1 and/or 62.2, but it has only been a 100 years or so, that improvements in indoor air quality have been achieved.



So, what does this have to do with heat exchangers? The problem in the past was that the sources of BTU's were not only not where they were needed...but were in areas which were less than ideal, sucking up combustion air and spewing forth incomplete products of combustion and/or particulate matter. Heat exchangers changed all this. We could now locate the source of heat (and later heat removal) in an area (utility room, basement etc) where it would not degrade the quality of life in the living spaces. Certainly, the use of cast-iron radiators and fin-tube radiation for hydronic systems were early fluid to air heat exchangers, but they only provided a singular performance, that of heating. Today's HVAC systems have to be able to add or remove heat (as well as control humidity) in order to assure occupant comfort.

To properly select a heat exchanger, in addition to identifying the capacity needed, one must be aware of the different characteristics and limitations as well as the strengths of the various types available. Although the brick in the bottom of the bed (as well as some heat recovery devices) may employ regenerative type heat exchangers (the two different fluid streams do not simultaneously flow, but rather, they flow sequentially through the same path), we are generally concerned with recuperative type heat exchangers. Recuperative heat exchangers have two separate paths, permitting two simultaneous flow paths.

Depending upon the system design and building constraints, one would next determine the appropriate technology to employ (limiting ourselves to hydronic applications), shell-and-tube, plate-frame or air-cooled.

Shell-and-tube heat exchangers may be fabricated from different materials, to suit the operating environment and fluids to be used. Even when smaller in footprint than a plate-frame or air cooled Heat exchanger of like capacity, the shell and tube installation requires that a "removal" clearance be provided, to remove the tube bundle for cleaning and/or repair. It also comes, generally, fully assembled and rigging it into an existing building can require additional expenditure of effort. The physical construction is inherently robust, making pressure spikes less problematic.

Plate-frame heat exchangers achieve high efficiencies in transferring heat from one fluid to another. These efficiencies are the result of the use of plates with relatively narrow spacing for the fluid flow, increasing the amount of turbulence and, as a result, heat transfer. It is this same close spacing that makes it essential that filters or screens be used during startup to ensure that particles 0.065 inch and larger do not pass into the heat exchanger where they can foul the fluid flow path. Although plate-frame units can be fabricated with larger spacing to accommodate anticipated contamination, the larger spacing will reduce the degree of turbulent flow and result in less effective heat transfer. It is essential to make sure that the fluids intended for use are compatible with the gasket material used, to prevent future leaks. Due to the sealing provided by the compressible gaskets, the plate frame equipment is more sensitive to pressure spikes (for example from rapid valve closing and/or water hammer). Plate-frame heat exchangers can have their sections welded up,

CTTC - Heat Exchangers - From One BTU To Another (Cont'd. from Page 10)

allowing for higher permissible pressure tolerance. However, this eliminates the ease of disassembly for which this type of equipment is frequently purchased. Applications (especially in food preparation facilities) which require frequent cleaning take advantage of the plate-frame units' easy disassembly.

Air-cooled heat exchangers must be located outside a building (or in an area that communicates with outside air, such as a penthouse with open top and sides) and can only be used to cool the working fluid. Power is required to run the fans, in addition to that required for the pumps circulating the fluid. Variable speed fan motor drives and/or control vanes can be used to vary the amount of air flowing through the heat exchanger coils.

Further differentiating heat exchanger design and construction are the flow directions in the devices; Counter-current flow, co-current flow and cross-flow. Counter-current flow will generally result in the highest effectiveness transferring BTU's, due to the maximum temperature difference between the two flows. Further affecting the effectiveness of the heat transfer is the fluid velocity and type of flow within the device (laminar vs turbulent). The Reynolds number (Re) is indicative of the degree of turbulence in the tube flow. Re is a function of the hydraulic diameter of the tube (D), mass velocity of the fluid (G) and the viscosity of the fluid (μ).

For Reynolds numbers less than 1200, one can assume laminar flow, with no tearing of the stream from the tube wall. This is inefficient, in heat transfer terms. Between values of 1200 to 2000, flow behavior can be unpredictable and is an operational area to avoid. For values of Re greater than 2000, there is significant separation of the fluid from the wall (turbulent flow) resulting in mixing of the boundary layer and the bulk field. There are actually five (5) layers to consider. A boundary layer inside and outside of the tube or plate; a "fouling" layer on each side of the tube or plate; and the tube or plate itself with its own heat transfer characteristic. If the heat exchanger components develop fouling (from contaminants in the fluid), heat transfer will suffer as will the overall effectiveness of the heat exchanger. It is due to this that occasional maintenance may be necessary to clean the internals of the heat exchanger to restore as-new performance.

Which type of heat exchanger to use is a function of application and device constraints. The Shell-and-tube devices, while widely used, may be more difficult to rig into finished spaces in buildings. They do offer the capability for operation at higher pressures and, are easier to mount with limited headroom. Keep in mind the eventual need to maintain and/or repair the internals of the heat exchanger, which requires ease of access and removal space. Plate Frame devices are more flexible as to future needs, permit on-site assembly if access to the utility room is difficult and offer improved heat transfer due to the closely gapped plates. If the fluids in use are compatible with the seal material, leaks should not be a problem, if pressure spikes are minimized. Care should be taken to avoid any system changes in fluid makeup, without first ascertaining compatibility with the seals. The higher heat transfer efficiency usually can translate to a smaller footprint and no need for "removal space".

Air-cooled heat exchangers, while used only for cooling, may be advantageous if water use is a problem, and if outside space is available. When air-cooled heat exchangers are chosen, there are additional decisions to be made, such as type of fin arrangement (tension, embedded or brazed), induced or forced draft fans and type of motor control. Tension (or swaged) fins, either with or without a "foot" or "shoulder" offer better heat transfer. The fins may be soldered if corrosive effects are to be minimized at the fin/tube interface. Embedded fins, either brazed or welded to the tubes provides the next best option and brazed (only) fins the least effective from heat transfer considerations. Forced draft fans, located below the horizontal coil, are less noisy than induced draft fans (located on top), "pulling" the air through the coil) but result in more turbulent airflow, increasing the heat transfer. On the down side, the forced draft fans result in reduced escape velocity of air leaving the coil and increases the chance of recirculation of the discharge air. Induced draft fan configurations, result in better air distribution, less chance of recirculation and less power consumption, but are generally most costly than forced draft equipment. In either case, when plain water is used as the working fluid, freeze protection may be necessary in cold weather conditions.

The final choice of heat exchanger type will depend upon the nature and configuration of the installation, and economic concerns. Regardless of what type of heat exchanger is chosen, all piping to and from the heat exchanger should be adequately supported to prevent mechanically stressing components of the heat exchanger. In some cases, use of flexible connections may be used to isolate movement and/or vibration.

A far cry from the hot bricks in the bed, today's heat exchanger technology offers enough variety to adequately configure one to suit whatever application is at hand.

Membership

Through the past months we've enjoyed a series of lectures about some of the most sophisticated HVAC applications in the industry. Throughout, we've maintained balance by offering a "Back to Basics" lecture series that underscores the importance of doing fundamental tasks right. In that same spirit, I'd like to review one of the basic principles that helps build value in ASHRAE: uninterrupted membership.



So why is renewal and uninterrupted membership so important? Did you know that there are four membership grades with different benefits, and that they are based on your time in ASHRAE?

Many people enter ASHRAE as students. While students may not hold office in ASHRAE, they can participate in technical committees that essentially shape the industry. In addition, students can begin to network with HVAC professionals and build bridges that will serve them well when they are ready to enter the workforce. In terms of building a solid resume, there is no better way to spend \$20!

After graduation, students can advance to Affiliate Members through the Smart Start Program. For three years this level of membership allows them to keep their fees relatively low while they build their social and professional networks and advance their careers. As an added benefit, members gain access to discounted ASHRAE publications, and affiliates are eligible for various products and services to include Group Health Insurance Benefits that are only available to ASHRAE members.

Affiliate members naturally advance to Associate Members after 3 years. Now that you have experience you are ready to get involved and change the world...or at least the way it's heated and cooled. Associate Members can participate in the governance of their chapters and take advantage of leadership opportunities all over the globe.

After 12 years, you become a Member. At this point you're confident in your professional skills, comfortable in leadership positions, and well established in the industry. Even better, you are eligible to hold office and vote all the way up at Society level. As an ASHRAE Member, you really can change the world through ASHRAE's global reach.

Unfortunately, none of this is possible if you allow your membership to lapse. Even if you've been a member for 20 years, if you allow your membership to expire (90 days past due) you lose your seniority, and the clock goes back to zero when you come back. Don't let this happen to you! Don't lose what you've worked so hard for. Renew your membership and hold your esteemed place in the conversation.

Don't forget to check our website at www.ashraeli.org for the most current information about your Long Island chapter.

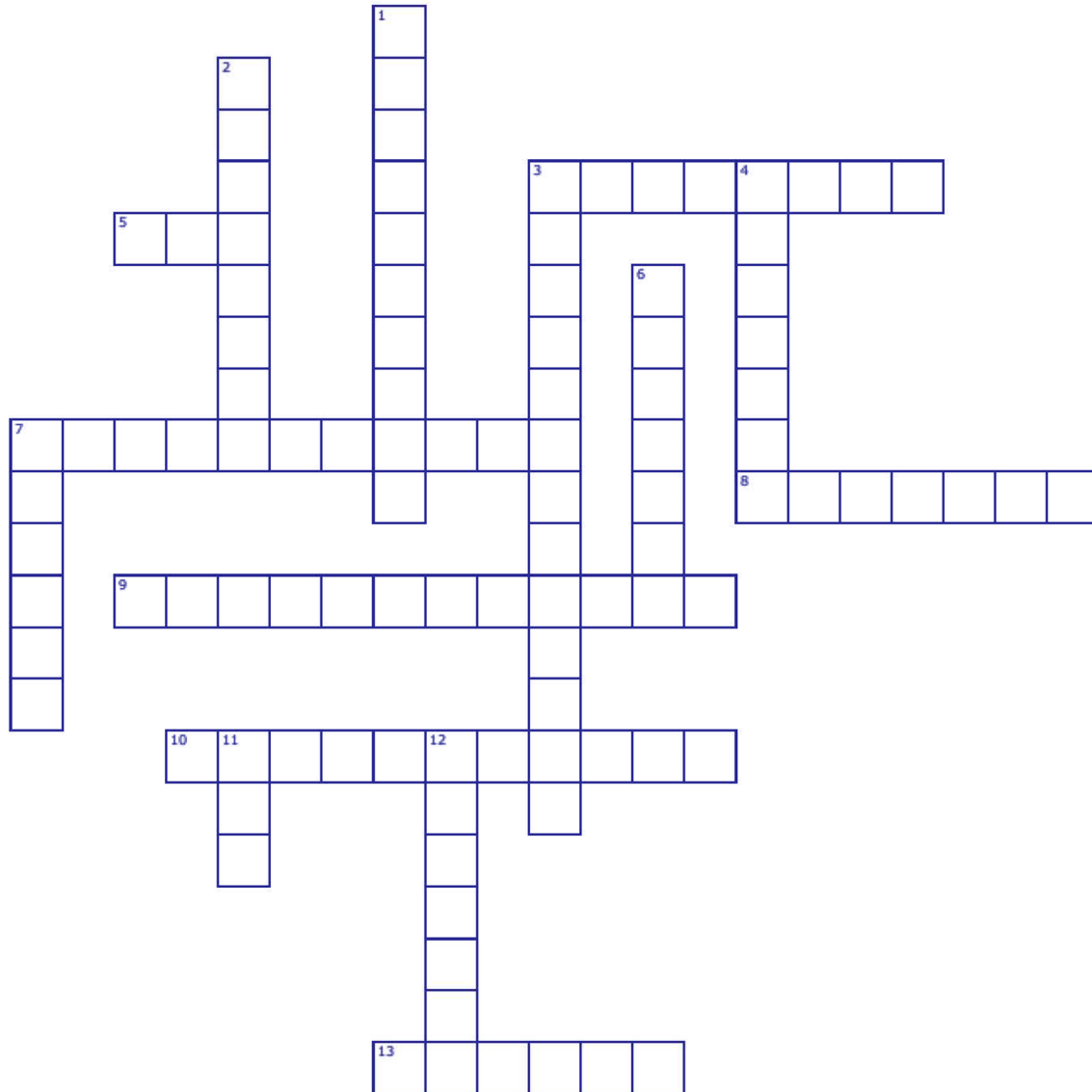
Are you interested in being published? Do you have a testimonial about the benefits of ASHRAE that you'd like to share? If so, then please forward it to me at membership@ashrae.org for publication in our monthly newsletter.

Lee Feigenbaum, LEED AP BD+C
Membership Chairman



History - Crossword Puzzle Time!

ASHRAE LI 2015



Across

- 3. Chapters first president
- 5. Young Engineers in ASHRAE
- 7. Hotel hosting chapters silver anniversary
- 8. Name of our newsletter.
- 9. 2013 chapters president.
- 10. ASHRAE President
- 13. Proudly displayed at our monthly meetings

Down

- 1. 2014 field trip to a ice rink in
- 2. Location of the 2015 CRC.
- 3. Club hosting our annual golf outing
- 4. Chapter operating guidelines
- 6. 2015 ASHRAE winter meeting location
- 7. Recent special chapter anniversary
- 11. ASHRAE Long Island is a part of Region
- 12. Location of our 190 chapter meetings

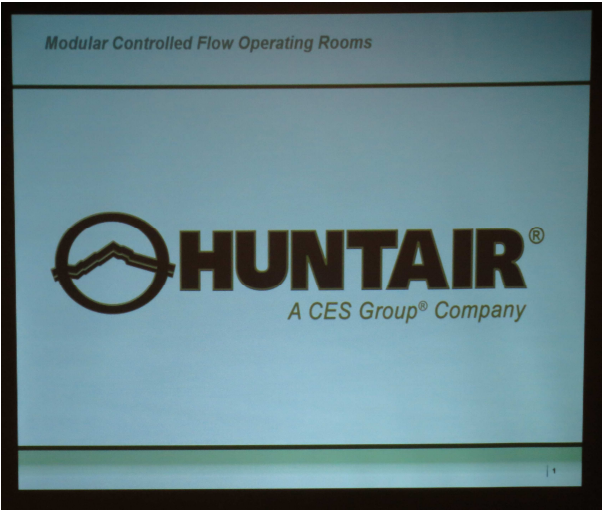
(Crossword Puzzle Answers Located on Page 16)

Andrew B. Dubel, PE
History Chairman

February Meeting Pictures

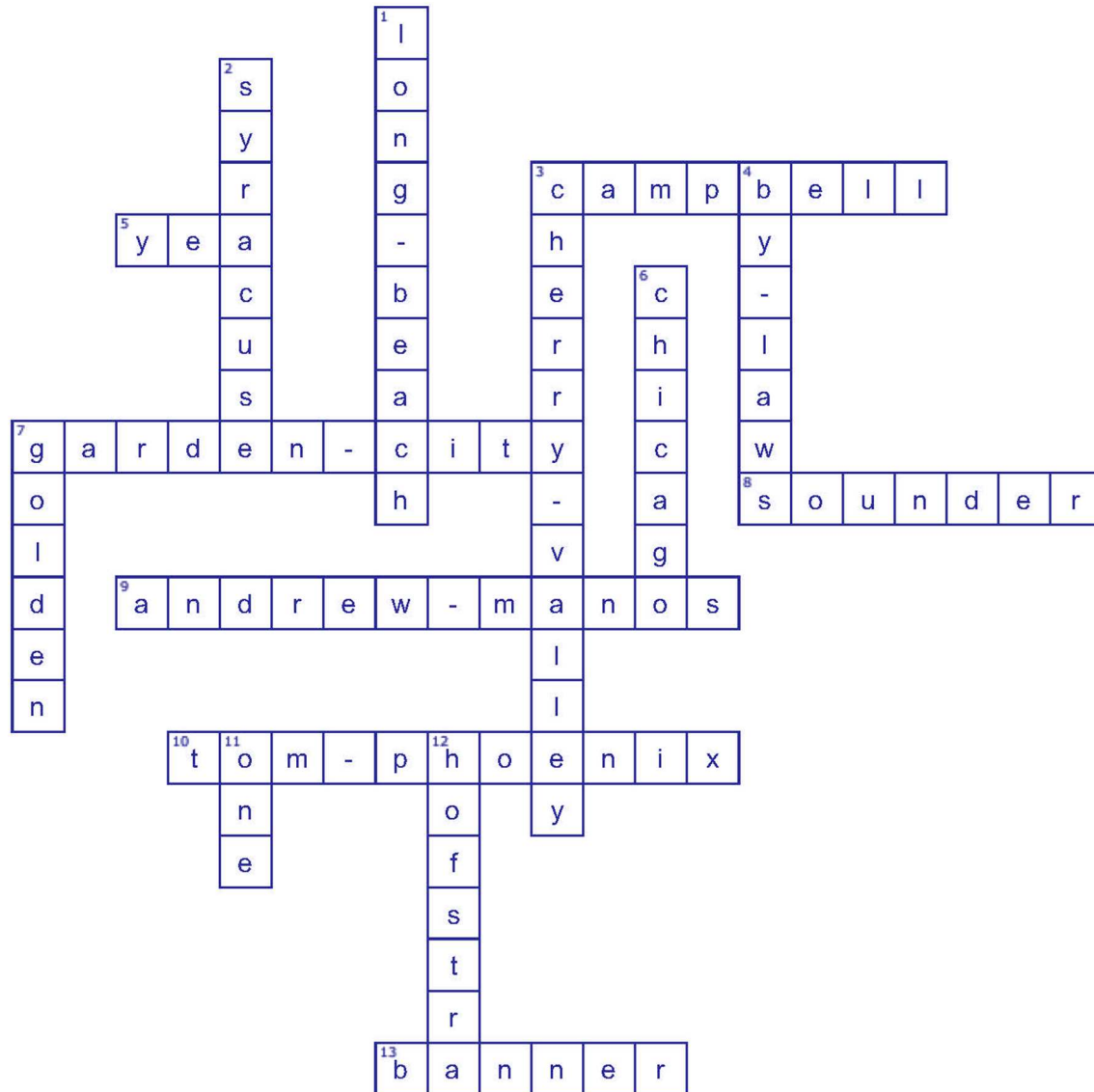


February Meeting Pictures



History - Crossword Puzzle Answers (from Page 13)

ASHRAE LI 2015



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ASHRAE Golf Outing - Monday, May 4, 2015

16th Annual LI ASHRAE GOLF OUTING

Monday – May 4th, 2015



Place: Cherry Valley Club
 Brunch: 11:00 am
 Shotgun: 12:30 pm
 Reception: 5:30 pm
 Dinner: 6:30 pm



This Event fills up fast, to guarantee a spot RSVP Soon.

(2) Foursome Limit Per Company.

Proper golf attire and shoes are required. Locker room and shower privileges are included.

CHECKS MUST BE IN BY APRIL 10, 2015 (No Exceptions)

Fax, Email or Mail entire sheet or cut this half and return

Name: _____ Company: _____
 Address: _____ Phone: _____
 City, State, Zip: _____ Fax: _____

I have read and understand the Cherry Valley Rules and Regulations (Signature): _____

Guest 1: _____ Company: _____
 Guest 2: _____ Company: _____
 Guest 3: _____ Company: _____



Fund raising is primarily through the contributions of our sponsors.

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Mail Checks To:

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Attn: Peter Gerazounis, P.E. LEED AP

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New York, NY 10001

Fax No.: (212) 643-0503

Email: peter.gerazounis@mgedpc.net

Golf & Meals:	\$ 350 pp x _____	= \$ _____
Reception & Dinner:	\$ 130 pp x _____	= \$ _____
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Sponsor Lunch:	\$ 500 <input type="checkbox"/> Yes	= \$ _____
Sponsor Reception:	\$ 500 <input type="checkbox"/> Yes	= \$ _____
Sponsor Prizes:	\$ 500 <input type="checkbox"/> Yes	= \$ _____
Sponsor Beverage Cart:	\$ 500 <input type="checkbox"/> Yes	= \$ _____
Sponsor Hole:	\$ 200 <input type="checkbox"/> Yes	= \$ _____

ASHRAE Golf Outing - Monday, May 4, 2015

Cherry Valley Club

28 Rockaway Avenue at Third Street

Garden City, NY

Telephone: (516)746-4420

Fax: (516)746-4421



Program:

11 a.m. Brunch in the Clubroom & Lounge – including Omelet station, deluxe deli board with rolls, chicken scarpiello, danish, croissants, bagels & cream cheese, sliced nova, fresh fruit and cheeses, Good Humor ice cream cart.

12:30 p.m. Shotgun Start Golf – Playing individual scores. Prizes for long drive, closest to the pins, low gross and callaway. Refreshments at the halfway house will include packaged snacks and whole fresh fruit, hot dogs, beer & soda. A snack cart will also be on the course. Carts, forecaddies, driving range, locker room and showers are all included in the price.

5:30 p.m. Following Golf - Open Bar with hot and cold horsd'ouvres in the Main Lounge. Fresh mozzarella with sun-dried tomatoes, cajun chicken, spring rolls, baby lamb chops, sesame chicken, turkey canapés, fried oysters, cheeses, fresh fruit, lobster halves, fresh clams & oysters, shrimp and crab claws.

6:30 p.m. Reception Dinner – Awards and raffle in the Main Dining Room. Carving stations of beef tenderloin & turkey breast. Chafing dishes of chicken & salmon featuring the chef's specialty, pasta station with marinara or vodka sauce, and choice of tossed or Caesar salad. Viennese dessert table following the dinner featuring pastries, fruit, cookies, assorted cakes and pies. Full beverage service throughout is included.

Women are also invited to attend and participate. There are locker room facilities available. The Cocktail hour and Dinner will also be available for those who cannot attend during the day for the golf.

Note: We are limited to 128 golfers. Openings will be filled on a first come-first serve basis. Corporate sponsorships will be available and raffle items will be welcome. Proper golf attire is a requirement for the golf course. Soft spikes are required. Please wear a jacket for the dinner.

Directions:

From the North Shore of Long Island: Take the Long Island Expressway to Exit 34 South (New Hyde Park Road Southbound), Grand Central Parkway (Northern State Parkway) to Exit 26 South (New Hyde Park Road Southbound) or Jamaica Avenue (Jericho Turnpike) Eastbound to New Hyde Park Road. Travel Southbound on New Hyde Park Road for approximately 5 to 7 miles to Stewart Avenue (You will cross over a set of railroad tracks). Take Stewart Avenue eastbound for approximately 1-1/2 miles to Cherry Valley Avenue. Travel Southbound on Cherry Valley Avenue for 1/2 mile, Cherry Valley Avenue becomes Rockaway Avenue. Continue on Rockaway Avenue and the entrance to Cherry Valley Club will be on your right.

From Local Points North: Take Old Country Road or Stewart Avenue to Franklin Avenue. Travel Southbound on Franklin Avenue to Fourth Street (just after crossing over railroad tracks). Turn right on Fourth Street and continue until it ends (Rockaway Avenue). Cross over Rockaway Avenue into the Cherry Valley Club's parking lot.

From the South Shore of Long Island: Take the Southern State Parkway to Exit 19 (Peninsula Boulevard-Hempstead/Garden City). Travel Northbound on Peninsula Boulevard for approximately 1/2 mile to President Street. Bear left on President Street (Northbound) for approximately one mile and cross over Hempstead Turnpike. President Street will become Cathedral Avenue. Continue on Cathedral Avenue for one mile to Fourth Street. Make a left on Fourth Street (Westbound) and continue until it ends (Rockaway Avenue). Cross over Rockaway Avenue into the Cherry Valley Club's parking lot.

From Local Points South: Take Hempstead Turnpike to Franklin Avenue. Travel Northbound on Franklin Avenue to Fourth Street. Turn left on Fourth Street and continue until it ends (Rockaway Avenue). Cross over Rockaway Avenue into the Cherry Valley Club's parking lot.

ASHRAE Golf Outing - Monday, May 4, 2015

Cherry Valley Club Golf Outing Guidelines



To add the enjoyment of your day, we ask that you abide by Cherry Valley Club's basic rules of The Club, dress, golf etiquette & safety, golf carts, and care of the course.

Club Rules

1. Smoking is not permitted in the Club House.
2. Cell Phones are permitted in the parking lot only. Use of Cell Phones beyond the parking lot is strictly prohibited. This includes the Golf Course.

Dress Code

1. Jeans, designer or otherwise, are not acceptable on club property. This not only includes pants, but skirts, and cut-offs.
2. T-shirts and tank tops are not in keeping with the atmosphere of the club and as such, are not acceptable. The definition of T-shirt includes those with psychedelic coloring or suggestive printing.
3. If the Main Dining room is going to be utilized for any purpose, jackets are required.
4. Short shorts are not permitted on the golf course, practice tee or putting green by either male or female. Bermuda shorts of acceptable length are permitted. Jogging attire and denim pants are not considered proper attire for the golf course.
5. **Soft spikes** are mandatory at all times on our fine golf course. If your shoes need soft spikes, arrive early so we can change them. There is a nominal fee. There is **no** exception to this rule.

Golf Etiquette and Safety

1. Slow play shows lack of consideration for the players in your group and, more important, for the players behind you. Golf is made much more enjoyable if all players adhere to the following points in the conduct of play:
 - Minimize the time spent looking for balls by watching the flight of balls hit by everyone in your group. If a ball appears to be lost or out of bounds, hit a provisional ball before leaving the tee.
 - Signal the players behind you to play through if it becomes apparent that a ball will not easily be found and you are holding up play.
 - Don't rush addressing and striking the ball but move briskly between shots.
 - If your ball is some distance from the golf cart and the exact club selection is in doubt, take several clubs with you when you leave the cart to walk to the ball.
 - When play reaches the area of the green, park the golf cart(s) behind the green or adjacent to the next tee. Walk briskly off the rear or side of the green after putting out. Mark your score cards after your group is off the green.
 - Once a score of double par has been posted, pick up and move on to the next hole.
2. No player should play until the players in front are out of range.
3. If your ball appears headed for a player or group of players immediately shout "fore" in a loud clear voice.
4. No one should move, talk or stand close to or directly behind the ball or the hole when a player is addressing the ball or making a stroke.

Save-the-Date: Free ASHRAE Webcast - April 23, 2015

SAVE THE DATE

April 23, 2015

1:00pm - 4:00 pm EDT

FREE ASHRAE WEBCAST

***New Tomorrows for Today's Buildings:
Existing Building Commissioning***

This FREE webcast will feature industry experts who will define the benefits of existing building commissioning for the environment, occupants, operations staff, and overall ownership costs. Viewers will be able to recognize the varied scopes of commissioning, when to apply comprehensive versus focused commissioning, and best practices in existing building commissioning specifications & contracting.

Visit www.ashrae.org/Webcast for additional information about the program, sponsorships, continuing education credits, speakers, and registration.

\$\$\$ SAVE MONEY \$\$\$

ASHRAE-LI is now offering **Ticket Books** for our Monthly Meeting/Dinner presentations. **\$400 for a book of Eleven** (that's right....eleven, one better than ten) tickets for the price of ten member admissions. Tickets are valid until December of 2015 and may be used by members and non-members. For those of you who attend all or most of our meetings and for organizations who normally send large groups to the meetings, this is a great way to save a few dollars and speed up the entry process. For more information and/or to purchase ticket books, **please contact Don Kane at finsec@ashraeli.org or call 631-574-4870.**



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www.electricaltrainingcenter.edu



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Electrical Training Centers HVAC/R training division is hiring HVAC/R instructors.

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Enjoy and appreciate teaching in our newly completed state of the art laboratory and classrooms to educate and develop the HVAC/R industries finest & future technicians and installers of Heating, Ventilation and Air Conditioning.

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Motivate, Educate, Develop and prepare present and future technicians in all aspects of the educational process.

Maintain expertise in subject matters taught.

Provide regular, precise and timely feedback to students and school administration concerning academic progress as well as behavior and attendance.

Job Requirements:

Industry certified HVAC/R technician with experience in residential and commercial applications.

EPA Universal Certification and/or related licenses/certifications preferred.

Prior teaching experience a plus.

Ability to work with other instructors and independently while utilizing excellent communication and emphasis on organizational skills.

Gas and oil burners, controls and wiring a definite plus!

Company Overview:

The Electrical Training Center Inc. was founded in 1998 to meet the ever-increasing demand in today's market for qualified electrical helpers. In 1999, the school was licensed by the New York State Education Department and began their first class in electrical training. In 2003, the school changed ownership and began to expand the curriculums and programs offered at the school. In 2010, the school was granted accreditation from ACCET. The school is presently working towards further expanding the facilities and curriculum. Please visit our Website at: **www.electricaltrainingcenter.edu**

Send resume to: **robert@electricaltrainingcenter.edu** or Fax: (631) 226-8326

CLASSIFIEDS**DAIKIN APPLIED - SOLUTIONS PLAZA MANAGER**

Daikin Applied manufactures technologically advanced commercial HVAC systems that customers from around the world can trust to advance their needs for performance, reliability and energy efficiency. The people at Daikin Applied use their expertise to creatively move HVAC technologies forward. Daikin Applied products and services are sold through a global network of dedicated sales, service and parts offices.

Position Summary

Provide the primary customer support for the Solutions Plaza. This includes leading customer events and meetings, providing technical overviews and benefit presentations of all Daikin Applied products, solutions and Aftermarket services. Also, this person will lead programs and program development conducted under the Daikin University education. The attendees of these classes will be consulting engineers, architects and contractors seeking industry instruction and continuing education credits. Key responsibilities of the role include:

- Host all customers that visit the Solutions Plaza. As the host, you will develop and present customized technical and commercial presentations to our customers, based on specific needs and vertical markets.
- Act as the primary instructor for the education classes conducted in the Solutions Plaza. As the primary instructor you will research and develop training materials to be used in the Daikin University program, identify instructors who can share the teaching role, and maintain the Daikin certification program.
- Demonstrate and describe all Daikin products, solutions and Aftermarket service that are included in the Solutions Plaza. This includes having a thorough understanding of vertical market applications and being able to describe the benefits of Daikin products and solutions, for those applications.
- Create and manage Solutions Plaza budget, including capital expenditures, operating and marketing expenses.
- Perform as the Solutions Plaza Facility Manager. This includes: Directing the development and activities for the Solutions Plaza Coordinator; Providing input to the marketing teams for suggested improvements to the Solutions Plaza; Managing existing equipment, modifications and upgrades to ensure the Solutions Plaza features our most innovative equipment.; Perform obligations related to tenancy (lease, utilities, space maintenance)

Qualifications

- Bachelor's Degree in Engineering or related discipline
- 6+ years of professional work experience
- Proven sales track record or extensive customer marketing event experience
- Outstanding relationship management, interpersonal, and problem-solving skills
- Demonstrated leadership capabilities
- Demonstrated proficiency in the MS Office Suite (Outlook, PowerPoint and Excel)

Preferred Qualifications

- Graduate degree in engineering, finance, business
- Prior experience creating sales proposals/marketing presentations
- Prior experience managing people (this role will manage a Coordinator)
- Prior experience managing budgets
- Competitor experience in commercial HVAC industry experience
- Demonstrated sales success – energized by meeting or exceeding sales goals
- Demonstrated example of taking initiative with a solid work ethic
- Exceptional communication skills, well developed listening skills, and ability to interpret business and/or client needs

Interested applicants can view and apply for this role on our website by going to www.daikinapplied.com/employment.php and using job ID 2300.

It is the policy of Daikin Applied to provide equal employment opportunity (EEO) to all persons regardless of age, color, national origin, citizenship status, physical or mental disability, race, religion, creed, gender, sex, sexual orientation, gender identity and/or expression, genetic information, marital status, status with regard to public assistance, veteran status, or any other characteristic protected by federal, state or local law. In addition, Daikin Applied will provide reasonable accommodations for qualified individuals with disabilities.

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If you would like to place an advertisement in the Long Island Sounder, please contact our Chapter Financial Secretary, Don Kane, PE @ 631-574-4870 or by email at finsec@ashraeli.org for further details. Thank you.

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Contact our local Daikin AC sales engineers in New York City:

- Ray Schmitt: 631-335-7116 - ray.schmitt@daikinac.com
- Steve Handelman: 917-968-9332 - steve.handelman@daikinac.com



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