Healthcare Facilities—Best Practice HVAC Design Considerations & Criteria

Featured Speakers: Anand Seth, P.E. CEM, CPE & Milt Goldman, MD, P.E., LEED-AP

Course Summary: Based on a portion of the ASHRAE book HVAC Design Manual for Hospitals and Clinics, this course will introduce many of the healthcare unique and up-to-date design considerations.

Course Abstract: This Short Course covers information published in ASHRAE's best seller, HVAC Design Manual for Hospitals and Clinics. Fundamental and up-to-date design considerations for HVAC systems serving healthcare facilities will be presented by industry experts.

Course Learning Objectives:
- How to utilize the features in the ASHRAE publication, HVAC Design Manual for Hospitals and Clinics.
- Medical terminology and procedures.
- Room design criteria - infection control methods, temperature, humidity, sound, and ventilation trends.
- Unique load calculation considerations including medical equipment heat gains.
- Designing for existing facilities, including infection control issues during construction and risk management.
- Smoke and life safety issues for hospitals.

See page 2 for speakers’ bios

DATE: Tues., February 13, 2007

MEETING MANAGER: Dan Cooke

MEETING PLACE: DoubleTree, Waltham

TIME: 5:15 - 5:45 p.m. - Social half hour
5:45 - 8:45 p.m. – Dinner & Main Program

NOTE NEW TIME FOR THIS MEETING!

COST: Members that RSVP $30.00
Members that do not RSVP $40.00
Non-Members $40.00
First 5 Student RSVP’s Free

DIRECTIONS: Rt. 128S to Winter St. Ext. (27B), head west off the exit. Turn left at the bottom of the hill onto Second Ave. DoubleTree Hotel is the first driveway on the left.

RSVP: Patrick Duffy— pjd@brplusa.com by Fri., Feb. 9

This Month’s Menu
Appetizer: Tomato Basil Bisque
Dinner Salad: Classic Caesar Salad
Entrée: Roast Stuffed Breast of Chicken with stuffing
Dessert: Tiramisu w/ Crème Anglaise
Dear Boston Chapter Members,

I would like to start by thanking Mr. Ray Grill again for his informative presentation at last months meeting. I would also like to thank the attendees of last months meeting for the wonderful feedback we received. There were many comment sheets that simply said “excellent”, but others said a little more such as “this is a very involved subject and as such it is hard to determine how intricate to make it….I think a good middle ground was found….”. Please remember that these meetings are for the members and we value any and all of your input. We would also like to hear any suggestions you may have for potential future meeting.

I am very proud to inform all of you that we have averaged 115 members at the technical meetings we have had this term. This is the highest attendance average in years and one of the reasons that I am very excited about what we have planned for the next meeting.

At this months meeting we are going to be trying something new and different. We have planned a 3 hour seminar to be presented during our dinner meeting this month. We have been approved for 3 PDH's!!!! I am very grateful that Mr. Anand K. Seth, P.E., CEM, CPE of Sebesta Blomberg & Associates for helping me out. Our original speaker called with regrets that he wasn’t going to be able to come to Boston. We are in the process of rescheduling that meeting on Internal Design Integration to next year and will keep you updated. After panicking for a while, I then thought of asking my boss, Anand to speak. He suggested that he would present the seminar that he and a college were going to be presenting at the AHSRAE winter meeting. Anand called upon his college Milton S. Goldman, MD, P.E., LEED-AP (Green Buildings Engineering, LLC), who created the presentation, and asked him to come to Boston to do the presentation with him. Milton accepted the invitation and the rest will soon be history. This is the same seminar they will have presented as a short course in Dallas at the ASHRAE Winter Meeting, which covers information published in ASHRAE's best seller, HVAC Design Manual for Hospitals and Clinics. I am hoping that by giving you an advance notice, you can make arrangements to attend this incredible seminar.

One other announcement that I am proud to present is that Terry Townshend, ASHRAE President, will be coming to visit our Chapter in March with a presentation on sustainability. Please plan to attend this special occasion as well!

Cheers,

Darcy Carbone
President – Boston Chapter ASHRAE

Meet the Speakers
Anand K. Seth, P.E. CEM, CPE

Mr. Seth is an engineering professional with more than 30 years of experience in designing, operating or optimizing building systems in healthcare, high tech research laboratories, industrial and educational building systems engineering, with the emphasis on healthcare. Mr. Seth has managed a successful energy and utility conservation program for several world-class institutions including Harvard University and Massachusetts General Hospital. As an example at Massachusetts General Hospital, the program resulted in cost avoidance of $50 million over 15 years.

He brings proven engineering expertise in engineering sustainable design, project management, master planning, infrastructure analysis, central energy plants and facility operations. He has been responsible for permitting, design, installation, and commissioning of several very complex projects.

Mr. Seth is a registered professional engineer in several states, a Certified Energy Manager as well as Certified Plant Engineer.

Milt Goldman, MD, P.E., LEED-AP

Milt Goldman is a graduate of Emory University School of Medicine, Baylor University Residency Programs (Surgery & Urology), and University of Wyoming in Architectural Engineering (Mechanical Option) and is licensed as a Professional Engineer (Mechanical) in Indiana and Georgia. He has participated in hospital development/construction from the standpoints of Board Member, Medical Staff President, Chief of Surgery, Chief of Urology, Professor, Laboratory Designer and Chairman of Infection Control Committee.

Publications & Research:
ASHRAE’s HVAC Design Manual for Hospitals & Clinics, Committee Member & Contributor, 2003
“IAQ and Hospital Design”, IAQ Applications, 2003
“Hospitals and SARS”, IAQ Applications, 2003
“Operating Room Airflow & Pressurization, Dallas ASHRAE Meeting, 1999
“CFD & PIV Analysis of Operating Room Air Distribution, in progress at Georgia Institute of Technology (ME), with Dr. Sheldon Jeter
JANUARY MEETING RECAP

By Darcy Carbone

“Strategies for Reducing the Impact of Smoke Management”,

Presented by Raymond Grill, P.E.

Mr. Grill provided an informative presentation on designing smoke management exhaust systems, including atrium requirements. His presentation included an overview of the applicable Codes, including recent changes to the 2006 IBC and NFPA 92B that impact the modeling methods used during design. He discussed balcony spill plumes and the equations required under the 2006 IBC. He indicated that ASHRAE is currently undertaking a research project studying the impact of the velocity of makeup air used in smoke management exhaust systems.

He described how performance based design and modeling techniques (with the prior approval of the AHJ) can be used to substantially reduce the impact of smoke management exhaust systems on the building. These techniques include CFD (computational fluid dynamics) programs and Fire Dynamic Simulators. When using these methods, he indicated that it is critical to establish performance criteria (temperature, radiation effects, visibility and CO levels) and building evacuation timeframes.

He concluded by indicating that the Codes are currently in a state of flux, and it is incumbent on the design engineer to understand all of the issues that could possibly impact the design of their specific smoke management exhaust system.

ATTENTION MEMBERS!!!

DATE CHANGE FOR THE MARCH MEETING!!!!!

Please note the March meeting will now be held on Tuesday, March 20. We are very honored to have Terry Townsend, President of ASHRAE, visit our chapter to discuss sustainability.

We look forward to seeing you there!

ATTENDANCE

The Boston Chapter of ASHRAE - January 9, 2006 Meeting
Had 85 in attendance:

80 ASHRAE Members
4 Non-Members
1 Student

Editor’s Note

By Teri Shannon

Effective with this issue, there will be new rates for ads. Want ads only will be accepted and should be in Word format. The deadline for the March newsletter is February 23rd. Company logos can be included with your ad; these need to be provided in either a .jpg or .gif file format. The cost is $200 per month for 1/4 page; $400 per month for 1/2 page. A check should be submitted with your ad, made payable to “ASHRAE - Boston Chapter”, and should be sent to:

ASHRAE
Attn: Teri Shannon
c/o DAC Sales
P.O. Box 576
W. Kennebunk, ME 04094
E-mail: tshannon@dac-hvac.com

If you have any questions, please feel free to contact me at 207-985-0873.
Attend a Great Training Program Lately?

The recently formed Boston ASHRAE Sustainability Committee is interested in helping its members participate in training programs that focus on building energy efficiency, efficient use of water and indoor air quality. We are looking to identify the best training programs and the best trainers that are currently available. If there is a program or trainer for any program, from an hour to a week in length, that you found to be well worth the time and money you invested, please let us know so we work to share this with others.

Lunch and Learns and on-line web meetings included.

Contact: Fran Boucher, BASC committee member
E-mail: francis.boucher@us.ngrid.com
Phone: 508 421-7299.

2007 Roster & Product Guide

By Cheryl Rossini

Production of the 2007-2008 Roster and Product Guide is well underway. Distribution to each member can be expected by April first.

There is still time to update your personal data. If you have made changes within the past two years to the following: your address, employer, membership grade, professional registration, etc; go to ASHRAE.org, type in your membership number and pin and update the data. We will collate this info from ASHRAE’s main database to create our Roster.

Deadline for updating is March 1st. If you still want to place an ad, email Cheryl at crossini@dac-hvac.com for info. No phone calls, please.

Student Activities

By Cheryl Rossini

Future Engineers Scholarship 2007

We are pleased to announce the 2007 Future Engineers Scholarship! We will be distributing the applications within the next 4-6 weeks.

Last year was our first year and we learned a great deal in the process. We will incorporate several changes and improvements into the 2007 applications. We will post the 2007 application on our website and send a reminder to our members to share and distribute a copy of the application to any student who may benefit from applying.

We will need Boston Chapter members to participate in the selection process (mid-March). If you wish to participate, and are not affiliated to ANY applicants, please email Cheryl at crossini@dac-hvac.com to be put on the list.

“Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.”

United Nations World Commission on Environment & Development
BVH is currently seeking HVAC designers and engineers at all levels for our New Haven, CT and Hartford/Bloomfield, CT offices. BVH is a progressive 100-person firm that respects our employees and treats them as professionals. What we expect from everyone on our team is hard work, a willingness to adapt, and a can-do attitude. What we offer in return is a great working environment, the chance to learn and grow, and a highly competitive salary package. We also offer a comprehensive benefits package including 401k with match and generous company contributions to dental and health plans. Both of our offices offer free parking and are close to the interstates and mass transit.

BVH is presently working on some of the most interesting and challenging projects in the region. From university science centers to nanotechnology laboratories, convention centers to LEED-certified buildings, BVH produces hundreds of projects annually for clients in the academic, research, healthcare, and corporate sectors.

Let us show you what a great place BVH can be for you. To apply, submit your cover letter and resume to: BVH Integrated Services, 50 Griffin Road South, Bloomfield, CT 06002; F: 860-242-0236; marial@bvhis.com. EOE

Johnson Controls is seeking a dynamic, technically savvy self-starting professional to help us capitalize on the growing market for energy-efficient and sustainable HVAC system technologies such as underfloor air distribution. Johnson Controls is a leader in this area, with our innovative, comprehensive and proven YORK FlexSys underfloor air distribution system and YORK Air-Fixture overhead air distribution system.

The ideal candidate will have at least 8-10 years of successful sales and/or HVAC design experience. He or she will play a highly visible, high-impact role in the Johnson Controls and YORK sales organization. He or she will work internally with our sales teams and externally with Owners, Architects, General Contractors and Consulting Engineers.

Compensation package includes a competitive base salary, annual bonus eligibility, full benefits, generous 401k and a business expenses plan. Ability to travel 50% or more is required. The territory is the Northeast and Mid-Atlantic regions (roughly Virginia to New England).

Apply online at: http://www.jci.com/hr/na_career.htm (search keyword: FlexSys)

Contact Dave Klee with any questions: dave.j.klee@jci.com (or 617-755-4212)

If anyone is interested in being a sponsor of the site, please contact me at gmh@brplusa.com. The cost is $300.00 per year and includes a link to your web site, posting of a line card, and a random posting of a logo on the home page. It is a great value.

Please feel free to contact me if you have any suggestions or new ideas.
ASHRAE Technology Awards Highlight Outstanding Building Projects


By the time you read this, these awards will have already been presented at ASHRAE’s 2007 Winter Meeting in Dallas. It is interesting to note that the winners are grouped together by a theme of sustainability. Some of the technologies include natural ventilation, use of gray water and incorporation of phase change materials.

The awards recognize members’ exceptional achievements that incorporate elements of innovative building design in the areas of occupant comfort, indoor air quality (IAQ) and energy conservation. Winners have applied ASHRAE standards for effective energy management and IAQ.

Matt Younger, P.E., principal of Stantec Consulting, Seattle, Wash., received first place in the new health care facilities category for his design for the Washington Department of Veterans Affairs, Retsil, Wash. The fully naturally ventilated building features large, independently operated windows that aid with a passive cooling system. The system’s design is predicted to save 45 percent over Standard 90.1 requirements, even without taking into account the deletion of comfort cooling requirements because the building is naturally ventilated. Younger used intensive thermal modeling as a critical design tool on this project. Through testing of different design parameters, a whole-building integrated design solution was developed.

Receiving first place in the new industrial facilities or processes category are Pierre Roussel, P.E., vice president of the mechanical division, and Jacques Lagace, P.E., vice president of innovation and major projects, at Bouthillette Parizeau & Associates for their design of the thermal plant at the Pierre-Elliot Trudeau Airport in Montreal, Quebec, Canada.

One of the challenges they faced was the proximity of the air traffic control tower and the possibility of the smoke plume from boiler combustion gases interfering with traffic control activities. The team designed a system to avoid this scenario, incorporating measures such as running the boilers’ flue gases through a direct contact economizer to cool them using grey water. This also allows the system to reclaim the heat and creates efficiency of up to 99 percent.

Daniel Pare, project manager for IBM in Bromont, Quebec, Canada, received first place in the existing industrial facilities or processes category for his design for an IBM semiconductor packaging facility in his hometown. His use of a thermal energy system with phase change materials combined with free cooling, a variable frequency drive chiller and predictive algorithm control is a first in North America. Phase change materials are substances that can accumulate and release energy during phase change. In this case, a change from liquid to solid.

Pare’s design will produce energy savings of six percent annually in part by using artificial phase change materials in the chiller with different melting points between 28°F and 40°F. The system also uses a natural cooling exchanger, which runs from September to May to take advantage of Mother Nature’s natural cooling season.
What’s New in our Chapter

By Bryan Hermanny

Each and every month the Board of Governors have a meeting before the technical meeting to discuss the inner-workings of our Chapter. Many members wonder what’s new, what’s being discussed, and what’s being done to make our chapter better.

Below is a quick summary of what was discussed:

Chairperson Openings
The Boston Chapter is currently seeking assistance for a couple of positions within the different Chairs. We have some committee members moving on and we will need to fill their shoes. The Chapter is looking to fill the following positions:

- Chapter Officer - Secretary
- Attendance
- Historian
- Student Activities

If anyone is interested in getting involved please feel free to contact one of the Officers, Board Members, or Committee members for information.

Meeting Payments
The Chapter is still researching other methods of implementing a credit card payment into the payment methods for attending the meetings. The Chapter had tried the credit card machine previously, but due to slow processing, the Chapter had to abandon the idea because of the delay in the check-in process. We will inform everyone if we are able to work out the details and ensure a fast processing machine.

Scholarships
The “Future Engineers Scholarship” will be given away once again this year. The fundraising for the scholarship was even larger than last year, which may allow additional scholarships to be given out. Jim Shiminski and Cheryl Rossini are once again in charge of the process. If you have any questions, or if you are interested in helping out the cause, please feel free to contact them. Once the information has been released, please keep in mind that the P.O. Box has changed from last year’s application, so please ensure that you are sending the information to the right address.

ASHRAE has a Design Competition that the Chapter will be distributing information on shortly. Keep your eyes open for the info.

PDH Credit
We will now be requiring a business card for all attendees requesting PDH credit. This helps eliminate confusion and limits errors in the application process that we have been facing. Please be prepared to provide a card upon filling out the paperwork. Future meetings that will issue PDH credit will be at a cost to all non-members that request the credit. Each certificate will cost $15 for each non-member per meeting. Members will be given credit at no additional cost.

ASHRAE Research Promotion
The Boston Chapter of ASHRAE is proud to announce that we will once again receive the “Full Circle Award”. This award is given to a Chapter when each Chapter Officer donates $100 or more towards ASHRAE Research Promotion.

We need your help! Each year Research & Promotion has a goal to meet and this year our goal is $14,000. We are currently behind at $3,000 and need to pick up the pace for year’s end. If you’d like to show your support for the Chapter and ASHRAE’s research, please contact Enrique De Los Reyes for more information on how to help.

Sustainability Committee
The Sustainability Committee has created multiple subcommittees that anyone can be involved with. Subcommittees include education, “who’s-who” in sustainability, and governmental relationships. The Committee will also send out a questionnaire to the members soon asking what you would like to see the educational subcommittee teach to the ASHRAE members. The Chapter is also hoping to have a Committee link on the Chapter website for information. We encourage all members interested in joining the committee or interested in helping out to join, please contact a Board member or Committee Chair Jim Shiminski for additional information.

The Sustainability Committee is hoping to have future meeting via video conferencing. If you or your company have video conferencing capabilities and are willing to share your facilities to allow meetings for the Sustainability Committee please let either Jim Shiminski or Dan Cooke know of your interest.

Winter Meeting in Dallas, TX
The Boston Chapter of ASHRAE will have a number of officers and committee members at the national meeting. If you attend the winter meeting and run into them, please make sure you stop by and say hello.

New item for the meetings
The Boston Chapter of ASHRAE has begun 50-50’s. The fee for the 50-50’s is completely optional and the money will go toward Research & Development.

Facilities Expo
Past President Steve Tafone will represent the Boston Chapter of ASHRAE at the Facilities Expo. If you attend the facilities expo and run into the booth, please make sure you stop by and say hello.

Historical Items
The Chapter currently has historical pieces that need a home. The Chapter may look into a local library for storage and display of these items for everyone to use and view. If you have any suggestions for a location, please contact George Hardisty for information.

Upcoming Meetings
The February and March meetings have been submitted for PIE approval, we’ll let you know the results as we receive them.

Chapter Website
The website will be going through some changes within the next couple of months. We have a new web designer on board. We will update everyone on new information as it develops. If any Chapter members have any requests or ideas for the new website, please feel free to contact one of the Board members with your ideas.

Anyone interested in assisting with the website can contact Steve Rosen, George Hardisty, or Teri Shannon for additional information.

Membership
Our Membership Chair wanted to remind all members to make sure their dues are paid up in full. Unsure as to whether you are up-to-date or not? Please be sure to check Society’s website www.ashrae.org or contact our Membership Chairperson Dan Cooke for more membership information.

See you at the next meeting!
**Historian’s Column**

*By Robert J. Barstow*

This column will feature an interview with Gary Vanderweil, P.E. Partner, R.G. Vanderweil Engineers, LLP. The interview took place in Gary’s office at 274 Summer Street on December 26, 2006. The interview will run as a series for the next few newsletters.

**RB** - Let’s start with where you went to school

**GV** - I graduated from Cohasset High School, then I went to Harvard, graduating in 1961 with a Bachelor of Arts Degree in Engineering and Applied Physics.

**RB** – From Harvard? I didn’t think they went into that much.

**GV** - They did. It was a very small department with maybe 30 students in my graduating class and then I went on to M.I.T. and got a Master’s Degree in Mechanical Engineering.

**RB** – That figures. You didn’t learn any HVAC at Harvard.

**GV** - I didn’t at M.I.T. either. They had stopped teaching it.

**RB** – They used to have a Heating and Ventilating Course, taught by a Professor Hesselschwerdt, I think.

**GV** – That’s correct – August Hesselschwerdt. He was active in ASHRAE. There had also been a big textile engineering department at M.I.T. up until World War II. After the war, it never came back. The textiles all moved to North Carolina. Maybe there’s no more textile engineering specialty.

**RB** – Probably isn’t. Probably they are all in China by now.

*(Editor’s note – Hesselschwerdt was president of ASRE in 1945-1946 and 1961-1962.)*

**GV** – After college I went to work for Lockheed Missiles and Space Company in Sunnyvale, California. I was there three or four years. Then I went to G.E in San Jose, California for a year or two. And then I came back in 1967 and joined my father’s company.

**RB** – I remember your father. I always thought of your father as an innovative engineer. He did a lot of kinds of systems others were afraid to do. One I remember was a radiant cooling system. It went out of style; now it’s coming back and now they are calling it chilled beams.

**GV** – He got into the business through radiant heating and cooling. He was working in World War II at Chase Brass and Copper in Waterbury, Conn. With the end of the war, the copper sales went down, because there was no more need for copper war materials. So they were looking for commercial outlets for copper, and thought radiant heating would be a good one. My father was in their R & D Department and they put him on to radiant heat. He did all the initial research. He established the practical underpinnings for radiant heat, and probably radiant cooling too, for Chase Brass. He went around to sell that concept, visiting all the Chase sales offices, including the ones in the Boston area to talk up radiant heat.

This interview (con’t)

ng. He realized that Boston was beginning to grow and it might be a good place to open his own practice. That’s what brought him to Boston.

**RB** – My recollection is that radiant cooling ceilings were manufactured by Burgess-Manning.

**GV** – By the time I joined in 1967, we weren’t designing them any more.

Part II of the interview will run in the March issue of the North-EastAire.

---

**Research Promotion**

*By Enrique de los Reyes*

I would like to thank everyone who has already donated so generously to the Research Promotion campaign. I am continuing to beg all the others to *please* consider donating whatever you can. Take a minute to fill out the form on the back cover and mail it to me with whatever contribution (large or small) you can make. People can also donate using a credit card via the internet at [https://www.ashrae.org/aboutus/resource_promotion](https://www.ashrae.org/aboutus/resource_promotion) (if doing it this way, please be sure to put Boston down under “Assigned ASHRAE Chapter:”). As always your generosity is greatly appreciated and will be recognized in the newsletter throughout the year.

This fund goes to research projects of great importance to us in fields such as energy conservation, food preservation, and improved operating room environments that result in fewer post-operative infections. We still have to raise about $9,000 this year. Every contribution is appreciated (large or small) as it takes participation by many members in order to support this important campaign (e.g. a $30 per year or $2.5 per month, contribution from ½ of our members would suffice to beat the goal that ASHRAE has set for our Chapter). I have contacted some members via email and will be contacting others as well. Several of the key Engineering firms are joining us in this cause. They have made very generous donations and we hope that other key Engineering firms will join us as well. I will be attempting to contact these firms individually.

We started a raffle at the January meeting to assist in raising funds and gave away three ASHRAE T-Shirts. The winners were Sam Aghdam, Pauric Baxter, and George Hines. Thanks to your generosity we collected $135 for Research. This month we will be raffling two more T-shirts and a watch. Please consider joining in the raffle.

Thanks again!
## OFFICERS

<table>
<thead>
<tr>
<th>OFFICE / OFFICER</th>
<th>PHONE</th>
<th>E-MAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>President: Darcy Carbone, Sebesta Blomberg</td>
<td>781-721-3949</td>
<td><a href="mailto:dcarbone@sebesta.com">dcarbone@sebesta.com</a></td>
</tr>
<tr>
<td>President-Elect: Steve Rosen, Autodesk</td>
<td>603-621-3259</td>
<td><a href="mailto:steven.rosen@autodesk.com">steven.rosen@autodesk.com</a></td>
</tr>
<tr>
<td>Vice President: Jeffrey H. Schulz, BR+A</td>
<td>617-925-8242</td>
<td><a href="mailto:jhs@brplusa.com">jhs@brplusa.com</a></td>
</tr>
<tr>
<td>Secretary: Bryan Hermanny, BR+A</td>
<td>617-254-0016 x295</td>
<td><a href="mailto:bmh@brplusa.com">bmh@brplusa.com</a></td>
</tr>
<tr>
<td>Treasurer: William Garvey, SEI Companies</td>
<td>617-210-1711</td>
<td><a href="mailto:bgarvey@seicompanies.com">bgarvey@seicompanies.com</a></td>
</tr>
</tbody>
</table>

## BOARD OF GOVERNORS

<table>
<thead>
<tr>
<th>NAME</th>
<th>YEARS</th>
<th>PHONE</th>
<th>E-MAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrique de los Reyes, P.E., Energy Systems Design</td>
<td>2006 - 2009</td>
<td>508-276-1102</td>
<td><a href="mailto:er@energysystemsdesign.com">er@energysystemsdesign.com</a></td>
</tr>
<tr>
<td>William Garvey, SEI Companies</td>
<td>2006 - 2009</td>
<td>617-210-1711</td>
<td><a href="mailto:bgarvey@seicompanies.com">bgarvey@seicompanies.com</a></td>
</tr>
<tr>
<td>Steve Bosland, PE, Einhorn Yaffee Prescott</td>
<td>2006 - 2009</td>
<td>617-305-9831</td>
<td><a href="mailto:sbosland@eypae.com">sbosland@eypae.com</a></td>
</tr>
<tr>
<td>Jeff Scogland, R.T. Forbes</td>
<td>2006 - 2009</td>
<td>978-777-1220</td>
<td><a href="mailto:scogland@comcast.net">scogland@comcast.net</a></td>
</tr>
<tr>
<td>Dan Cooke, RG Vanderweil</td>
<td>2005 - 2008</td>
<td>617-423-7423</td>
<td><a href="mailto:dcooke@vanderweil.com">dcooke@vanderweil.com</a></td>
</tr>
<tr>
<td>Patrick Duffy, BR+A</td>
<td>2005 - 2008</td>
<td>617-925-8255</td>
<td><a href="mailto:pjd@brplusa.com">pjd@brplusa.com</a></td>
</tr>
<tr>
<td>Jim Shiminski, DAC Sales</td>
<td>2005 - 2008</td>
<td>207-985-0873</td>
<td><a href="mailto:jshiminski@dac-hvac.com">jshiminski@dac-hvac.com</a></td>
</tr>
<tr>
<td>Bryan Hermanny, BR+A</td>
<td>2004 - 2007</td>
<td>617-254-0016 x295</td>
<td><a href="mailto:bmh@brplusa.com">bmh@brplusa.com</a></td>
</tr>
<tr>
<td>John Swift, Cannon Design</td>
<td>2004 - 2007</td>
<td>617-724-5440</td>
<td><a href="mailto:jswift@cannondesign.com">jswift@cannondesign.com</a></td>
</tr>
</tbody>
</table>

## COMMITTEES

<table>
<thead>
<tr>
<th>COMMITTEES</th>
<th>CHAIRPERSONS</th>
<th>TELEPHONE</th>
<th>E-MAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>Patrick Duffy, BR+ A</td>
<td>617-925-8255</td>
<td><a href="mailto:pjd@brplusa.com">pjd@brplusa.com</a></td>
</tr>
<tr>
<td>Chapter Program</td>
<td>Steve Rosen, Autodesk</td>
<td>603-621-3259</td>
<td><a href="mailto:steven.rosen@autodesk.com">steven.rosen@autodesk.com</a></td>
</tr>
<tr>
<td>Chapter Technology Transfer</td>
<td>Dave Klee, York / Johnson Controls</td>
<td>781-232-0611</td>
<td><a href="mailto:dave.klee@jci.com">dave.klee@jci.com</a></td>
</tr>
<tr>
<td>CRC Alternate</td>
<td>Steve Rosen, Autodesk</td>
<td>603-621-3259</td>
<td><a href="mailto:steven.rosen@autodesk.com">steven.rosen@autodesk.com</a></td>
</tr>
<tr>
<td>CRC Delegate</td>
<td>Darcy Carbone, Sebesta Blomberg &amp; Associates</td>
<td>781-721-3949</td>
<td><a href="mailto:dcarbone@sebesta.com">dcarbone@sebesta.com</a></td>
</tr>
<tr>
<td>Golf Outing</td>
<td>William J. Garvey, SEI Companies</td>
<td>617-210-1711</td>
<td><a href="mailto:bgarvey@seicompanies.com">bgarvey@seicompanies.com</a></td>
</tr>
<tr>
<td>Greeting</td>
<td>Steven Tafone, William Berry &amp; Sons</td>
<td>978-774-1057</td>
<td><a href="mailto:stafone@berry.com">stafone@berry.com</a></td>
</tr>
<tr>
<td>Historian</td>
<td>Bob Barstow, Barstow Engineering</td>
<td>617-262-0420</td>
<td><a href="mailto:barstoweng@comcast.net">barstoweng@comcast.net</a></td>
</tr>
<tr>
<td>Honors &amp; Awards</td>
<td>Robert Persechini, RDK Engineers</td>
<td>617-345-9885 x322</td>
<td><a href="mailto:rpersechini@dkengineers.com">rpersechini@dkengineers.com</a></td>
</tr>
<tr>
<td>Membership Promotion</td>
<td>Daniel Cooke, Vanderweil Engineers</td>
<td>617-423-7423</td>
<td><a href="mailto:dcooke@vanderweil.com">dcooke@vanderweil.com</a></td>
</tr>
<tr>
<td>Nominating</td>
<td>Robert Persechini, RDK Engineers</td>
<td>617-345-9885 x322</td>
<td><a href="mailto:rpersechini@dkengineers.com">rpersechini@dkengineers.com</a></td>
</tr>
<tr>
<td>NorthEastAire</td>
<td>Teri Shannon, DAC Sales</td>
<td>207-985-0873</td>
<td><a href="mailto:tshannon@dac-hvac.com">tshannon@dac-hvac.com</a></td>
</tr>
<tr>
<td>Product Show - April 2008</td>
<td>Jeffrey H. Schultz, BR+A</td>
<td>617-925-8242</td>
<td><a href="mailto:jhs@brplusa.com">jhs@brplusa.com</a></td>
</tr>
<tr>
<td>Professional Development</td>
<td>Steve Bosland, P.E., Einhorn Yaffee Prescott</td>
<td>617-305-9831</td>
<td><a href="mailto:sbosland@eypae.com">sbosland@eypae.com</a></td>
</tr>
<tr>
<td>Publicity</td>
<td>Kristen DelloRusso</td>
<td>617-962-2933</td>
<td><a href="mailto:kristen@cruiselinedeals.com">kristen@cruiselinedeals.com</a></td>
</tr>
<tr>
<td>Refrigeration</td>
<td>Steven Tafone, William Berry &amp; Sons</td>
<td>978-774-1057</td>
<td><a href="mailto:stafone@berry.com">stafone@berry.com</a></td>
</tr>
<tr>
<td>Region I</td>
<td>Garry Myers, PE</td>
<td>212-951-2815</td>
<td><a href="mailto:Garry.Myers@ny.pk.com">Garry.Myers@ny.pk.com</a></td>
</tr>
<tr>
<td>Research Promotion</td>
<td>Enrique de los Reyes, P.E., Energy Systems Design</td>
<td>508-276-1102</td>
<td><a href="mailto:er@energysystemdesign.com">er@energysystemdesign.com</a></td>
</tr>
<tr>
<td>Student Activities</td>
<td>Jim Shiminski, DAC Sales</td>
<td>207-985-0873</td>
<td><a href="mailto:jshiminski@dac-hvac.com">jshiminski@dac-hvac.com</a></td>
</tr>
<tr>
<td>Website</td>
<td>George M. Hardisty, P.E., BR+A</td>
<td>617-254-0016 x308</td>
<td><a href="mailto:gmh@brplusa.com">gmh@brplusa.com</a></td>
</tr>
<tr>
<td>Date</td>
<td>Main Program</td>
<td>Speaker</td>
<td>Certificate for PHD’s</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Friday, September 15, 2006</td>
<td>Casino Night – Research &amp; Promotion Fund Raiser</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday, October 10, 2006</td>
<td>Chilled ceilings, floors and beams description and operating fundamentals (each are unique)</td>
<td>Stanley A. Mumma, Ph.D., P.E., ASHRAE Fellow – Distinguished Lecturer</td>
<td>Approved for 1.0 PDH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday, November 1, 2006</td>
<td>Chapter Sponsors Night</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday, December 12, 2006</td>
<td>How to maximize your LEED points for mechanical and plumbing</td>
<td>Richard Moore an Environmental Consultant</td>
<td>Approved for 1.5 PDH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday, February 13, 2007</td>
<td>Healthcare Facilities—Best Practice HVAC Design Considerations &amp; Criteria</td>
<td>Anand Seth, Milt Goldman</td>
<td>Approved for 3.0 PDH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday, March 20, 2007</td>
<td>The ASHRAE Promise: A Sustainable Future</td>
<td>Terry Townsend, ASHRAE President</td>
<td>In Progress</td>
</tr>
<tr>
<td>NOTE NEW DATE!!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday, April 10, 2007</td>
<td>Air to Air heat exchangers, heat pipes and plate &amp; frame heat exchangers</td>
<td>TBD</td>
<td>In Progress</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday, May 8, 2007</td>
<td>Installation of Officers</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>June 2007</td>
<td>Golf Outing</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Social Event**: Golf Outing
ASHRAE RESEARCH

ASHRAE Chapter Contributors

Air Industries, Inc.  Mr Eric M Edman  Mr Max Levi
Boston Chapter Raffle Mr Gary M Elovitz  Mr Daniel W Miles, PE
Cornerstone Commissioning, Inc.  Mr J Michael Fleming  Mr Allan R Morris
Engineered Solutions Inc.  Mr William J Garvey  Mr Stephen W Nicholas
SEi Companies  Mr Ralph S Gifford  Mr William O’Leary
Walsh Mechanical Contractors  Mr William J Goode  Mr Thomas Ouellet
Mr Peter J Barrer  Mr Joe W Hale  Mr Paul F Padua
Mr Robert J Barstow  Mr Robert A Hamilton  Mr Robert J Persechini
Ms Darcy Carbone  Mr George M Hardisty, PE  Mr Steven Rosen
Mr. Cris Copley  Mr Bryan Hermanny  Mr Jeffrey Schultz
Mr Robert M Couture  Mr. Nicholas Johnson  Mr Michael C Spence
Ms Katherine G Cunkelman  Mr James P Kirby  Mr John M Swift Jr
Mr Enrique de los Reyes  Mr Gene F Koons Jr  Mr Steven J Tafone
Mr Charles E Thomas

CALL ENRIQUE DE LOS REYES NOW! AT 508-276-1102, OR:

Mail Check (Payable to “ASHRAE Research) to:
ASHRAE RESEARCH
C/O ENERGY SYSTEMS DESIGN, INC.
20 MARSHALL TERRACE
WAYLAND, MA  01778

Name: _______________________________________________________________________________________________
Company: ___________________________________________________________________________________________
Address: ___________________________________________________________________________________________
TEL: _____________________________________________________

INDIVIDUAL
$25.00 $50.00 $100.00 $200.00

CORPORATE
$250.00 $500.00 $1,000.00 $2,000.00

Your contribution puts us closer to achieving our goal. Please send what you can today!
Individual contributions of $100 or more and Corporate contributions of $150 or more receive this year’s Commemorative Coin and Honor Roll Contribution status.

Other: ____________

NorthEastAire
ASHRAE - BOSTON CHAPTER  www.ashraeboston.org

DAC Sales
P.O. Box 576
West Kennebunk, ME  04094

ADDRESS SERVICE REQUESTED