



CLEVELAND ASHRAE NEWSLETTER

April 2010



APRIL MEETING

Joint Meeting with the NEO USGBC

April 19, 2010

Times:	4:15pm-5:30pm	Board Meeting
	5:30pm-6:15pm	Happy Hour
	6:15pm-7:15pm	Dinner
	7:15pm-8:15pm	Presentation
Location:	Harry's Steakhouse	
	5664 Brecksville Road	
	Independence, OH 44131	

R.S.V.P. @ (216) 373-0315 by 12:00 Noon on Friday, April 16th for Reservations. Please state if you need a CPD Certificate. Dress Attire is Business Casual. Guests are welcome for a \$25 dinner charge.

Our April 19th, 2010 meeting will be a combined venture with our local Northeast Ohio USGBC Chapter. We have been working with the NEO USGBC during the past months regarding meeting together and we are very excited this meeting has developed. Both organizations hope to understand each other better and wish to see if more collaboration is warranted. During this meeting we will be discussing organizational structures, the NEO USGBC High Performance Building Committee and the recently released ASHRAE High Performance Building Standard 189.1. We will also entertain any questions that members wish to submit prior to the meeting for the other organization to address.

This Month's Sponsor

If you are interested in sponsoring the newsletter, please contact James Dudt at 216-391-3700.

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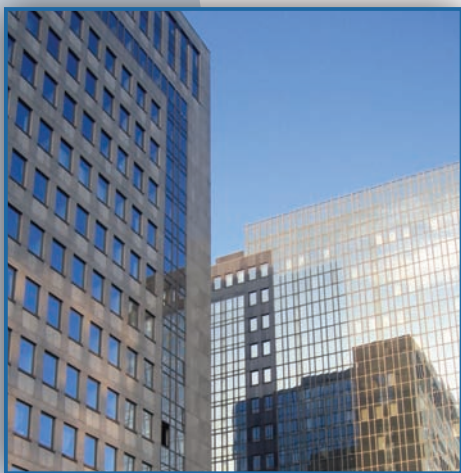
THE PRESIDENT'S CORNER

BY ROBERT LANEVE



April 5, 2010

Spring is here and it is even better to think that our summer is not far away. So how did your NCAA Bracket work for you? If you were able to pick all those upsets and low seeds, keep those thoughts and visit ASHRAE in Las Vegas next year, where you can cash in on such talent!



We were very fortunate to have ASHRAE Society President Gordon Holness visit with us at our March meeting. He clearly reminded us to remember our existing buildings and the need to keep them energy efficient. The renovation of our existing building stock is a key component in ASHRAE's commitment to sustainability.

I wish to extend a special Thank You to all members who have once again donated to ASHRAE Research for the 2009-10 Campaign Year. It is through your generosity that ASHRAE is able to provide guidance and valuable information to our industry. For those that have not yet contributed, please remember to do so soon. Our campaign expires on June 30, 2010 and our chapter is striving to reach our collection goal established by ASHRAE Society. Please contact Bob Chmielewski, our Research Promotion Chair, if you have any questions.

Another note of thanks goes out to Steve Armstrong and Shawn Beres who judged the recent Student Science fair. Steve and Shawn found tremendous talent at the science fair and our chapter was able to provide a monetary prize to three students.

This month's meeting continues my outreach theme as we join the NEO USGBC chapter for a joint meeting. We will have an informative exchange and hopefully develop a relationship that can continue to grow. We are again at Harry's and anticipate large attendance for this joint meeting, so please remember to register early.

OFFICERS & COMMITTEE CHAIRMEN

2009-2010 Officers and Board of Governors

President Robert Laneve
President Elect Billy Kodosky
Treasurer Shawn Beres
Secretary Dominic Cacolici

Board of Governors

Matt Morgan
Matt Nelson

Committees and Chairs

Chapter Technical Transfer Committee Robert Laneve

Programs (CTTC) Robert Laneve

Refrigeration (CTTC)

Richard B. Long

Gov't Activities (CTTC)

Doug Barnes

Membership & Roster

Tim Baker

Product Directory

Daniel J. Bacik

Research Promotion

Bob Chmielewski

Newsletter

James Dudi

Student Activities

Scott K. Jordan

Honors & Awards

Fred H. Hollman

Historian

Dave Deschler

Science Fair

Steven R. Armstrong

Meeting Host

Scott Dusenbury

Scholarship Fund (Sal Triana & Gardiner)

Ken Borah
Billy Kodosky
Shawn Beres
Gary Gardiner

Golf Outing

Louis A. Bentzen
Ken Borah

Engineer's Week

James G. MacMillan

Special Events (December Social)

Mike Denk

Budget & IRS Compliance

Fred H. Hollman

Sunshine Fund

James W. Wickert



SPEAKER BIO

Our April meeting has been organized through the efforts of Michele Kilroy, Coordinator of NEO USGBC and Cleveland ASHRAE President Rob Laneve. Michele and Rob will emcee this joint meeting with additional input from members of each organization.

MARCH MEETING RECAP

ASHRAE Society President Gordon Holness was very kind to visit with us at our March 15, 2010 meeting. His ASHRAE Presidency demands extensive travel throughout the World and U. S. and we appreciate President Holness taking the time to visit Cleveland. His Cleveland trip was part of a three city Ohio tour...Columbus, Cleveland and Toledo!

Gordon presented his Presidential theme, "Sustaining our Future by Rebuilding our Past." Realizing that construction dollars are divided as 2% for new construction and 86% for existing construction, it is easily understood that our greatest opportunity to a

sustainable future lies with improving energy efficiency in existing buildings. These improvements can be changes in equipment, changes in the structure or changes in operating sequences, but these changes must also be augmented with cultural changes. We must change our "consumption" and "disposable" attitude into a "conservation" and "reuse" attitude. Educating building owners to change their mind set from a "first cost" mentality to a "life-cycle cost" mindset will further improve our sustainability. When design teams utilize the Advanced Energy Design Guides, ASHRAE Standard 189.1 and the soon to be realized 90.1-2010 they are taking steps in the proper direction.

It was even recently announced that the International Code Council will be adopting 189.1 into their International Green Construction Code!

President Holness made the point that "together we can make a difference." He offered an insightful quote from the 1875 Englishman John Ruskin: "When we build, let it not be for present use alone, let it be such work as our descendants thank us." Thank you again President Holness for visiting with us to share your visions.

ASHRAE Scholarship Application

If you know of someone who is actively attending college to earn a mechanical or architectural engineering degree at a Northeast Ohio University or out of the area but is from the Northeast Ohio area, please point them in a direction of a Sal Triana Scholarship possibility. The intent of this scholarship is to help those engineering students seeking to someday make a career in the HVAC consulting/engineering/sales businesses get through the financial struggles of a higher education.

Applications can be found on the Cleveland ASHRAE Website and e-mailed to kborah@karpinskieng.com.

If you have any questions please feel free to contact Ken Borah at **216-391-3700**.

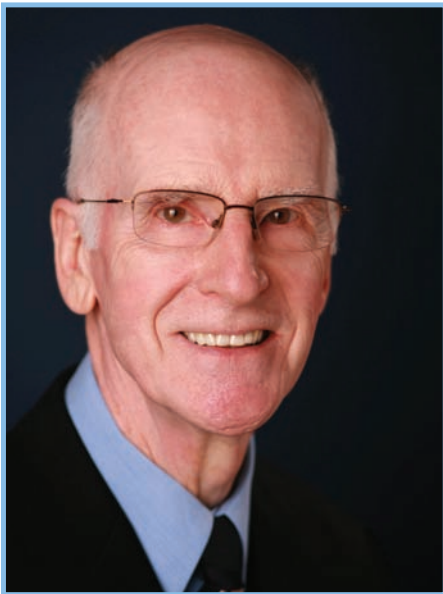


A SECOND CHANCE...

...TO HEAR FROM **PRESIDENT HOLNESS!**



So you planned on attending the meeting to hear the President of ASHRAE speak and something came up. To add insult to injury, steak was served too. Fortunately, your luck is about to change.



The truth is the vast majority of our members have not had the chance to hear the President of ASHRAE speak even though we have had a number of visits from the office holder in the past. This year I decided to change things. In addition to having the presentation posted on our chapter's website www.clevelandashrae.org, I have recorded an interview with ASHRAE President Gordon Holness and posted on my personal website www.buildingchatter.com for everyone to hear. In this interview we discuss a little about what ASHRAE is, what the society does, as well as standards and programs to look forward to in ASHRAE's future. Even for those who attended the meeting, there is something more to learn as I get a chance to talk to Gordon about how he started in the business and why he wanted to become president.

If turns out you liked what you heard let me know, or better yet let someone else know. The point is to share this with others. This is something easy that anyone can listen to at lunch or as they drive to and from work like I do.

Enjoy.

– Matt Nelson



IN THE NEWS...



ASHRAE Online Employment Resource

With an exceptionally difficult recruitment market, the ASHRAE Jobs Career Center has been averaging 55 active job postings per month and just over 5,000 monthly job seeking visitors. Recruiters are experiencing, on average, 12 online applications per job posting and have access to just over 1200 resumes that have posted since its launch on June 15.

ASHRAE Jobs is not only about the hire. It is the path to a hire. By visiting www.ashraejobs.com, you can search for certain skill sets and demographics that you are "always looking for". It is the place to capture high performers you can use to replace underperformers. Is this the place to see if your competitors' people are out searching and interested in you.



ASHRAE Jobs understands you do not want to be sold to. But you still have opportunities and problems, and may need a professional to discuss those with. That is what you can expect from ASHRAE Jobs: a no-strings-attached conversation where a representative listens and then makes recommendations whether they include ASHRAE Jobs or not. For more information, visit www.ashraejobs.com, call 888-482-2562 or e-mail John VonHarz at jvonharz@ashraejobs.com. An ASHRAE Jobs representative is available during business hours to discuss your firm's needs and make recommendations on next steps.



IN THE NEWS...



Cleveland ASHRAE Obituaries

We extend our sympathy to member **Geoffrey Andres** in the loss of his wife **Edna**, who passed away on March 13, 2010 at age 69. They had been married 42 years. (Geoff had assumed the leadership of Mussun Sales when the founder Bill Mussun retired around 1980.) Edna was an avid golfer, who had volunteered with the Red Cross and Medina Hospital, and was a Brownie and Girl Scout leader, gardener, jogger and walker. She is also survived by three daughters, nine grandchildren, and three great-grandchildren. Contributions may be made to the American Heart Association.

Julius Juhasz Jr., a key figure in the history of our industry in Greater Cleveland, died in early March at age 91. Julie, respected for his skill and leadership as a sheet metal worker, teamed with Bill Brewer and Bill Garrett in the late 1950s to found the Brewer Garrett Company, when the Refrigeration Sales Company decided to give up its design-build contracting operation. (Bill Brewer was ASRE Chapter President in 1953-54, when he was Chief Engineer of Refrigeration Sales, and Bill Garrett was ASHRAE Chapter President in 1969-70.) They held their first meeting to organize Brewer Garrett in the office of ASHRAE Member Mel Rubin at R & M Heating & Air Conditioning on East 33rd Street. Julie had served in the "Seabees" (Construction Battalions) of the U. S. Navy during World War II, and then was Chairman of the Sheet Metal Industry Promotion Fund during the period when the SMACNA ductwork construction standards were introduced. He was also a Trustee of Sheet Metal Workers Local 33. He is survived by four children, six grandchildren, and four great-grandchildren.

Victor H. Coe, Life Member, died recently at age 87 in Henderson, Nevada, where he had retired. He had joined ASRE, a predecessor of ASHRAE, in 1956. Vic spent his career in Cleveland as engineer-in-charge of the air conditioning and related systems of all the wide-spread facilities of the Central National Bank, following his service in a flight crew of the U.S. Army Air Corps during World War II. He was also an active member of the Refrigeration Service Engineers Society.

Vic was perhaps the most colorful character to ever enliven Cleveland Chapter activities. Our annual clambakes and other events were regularly disrupted by mysterious firecracker eruptions. His quirky sense of humor was manifest in his long, straight-faced, tales. He claimed to have invented the self-cleaning air filter used in all Central National branches - his maintenance people removed the filters monthly, turned them around, and put them back in. Some ASHRAE members believed him. Vic once spray-painted the entire outside of his house in Westlake, and then scraped his windows clear. At the then headquarters of the Bank behind the Terminal Tower, the Bank kept an active wood-burning fireplace in the main banking room. Homer Borton, then President of Osborn Engineering, told of the pleasure of meeting with his company's banker in armchairs by the fire. But Vic told of the strong draft up the chimney, rising a dozen or more stories through the building, and of the many customers the bank lost when they stood too close to the fire and were sucked up the chimney.



NORTHEASTERN OHIO SCIENCE AND ENGINEERING FAIR



On March 16, 2010 Shawn Beres and Steve Armstrong participated as Special Judges at The 2010 Northeastern Ohio Science and Engineering Fair. This year's event was held at Cleveland State University. A record-breaking crowd of area students submitted projects for the 57th annual Science and Engineering Fair. With roughly 680 students from more than 90 schools, this year's total easily exceeds last year's 582 seventh-through 12-grade students from public, private, and parochial schools in Lake, Geauga, Cuyahoga, Portage, Summit, Medina and Lorain counties.

The Northeastern Ohio and Science and Engineering Fair is a nonprofit, all-volunteer organization established in 1953 and presented by Cleveland State University, Cleveland Clinic and The Great Lakes Science Center.

Shawn and Steve had a great time representing The Cleveland Chapter of ASHRAE and presented 3 awards to deserving students. Our three ASHRAE Science Fair Award winners are as follows:



1st Prize:

Christopher Bambic-"The Energy Chain"



2nd Prize:

Alexandria Miller-"Wind Turbine and Blade Material"



3rd Prize:

Libby Cha-"What is Growing in Our Vents"

Congratulations to our WINNERS!

ASHRAE Learning Institute Spring 2010 Online Course Series

2 WAYS TO REGISTER

Internet: www.ashrae.org/onlinecourses

Phone: Call toll-free at 1-800-527-4723 (US and Canada) or 404-636-8400 (worldwide)

Note: You may register up to 24 hours prior to an online seminar. Courses are in US Eastern Standard Time.



Introduction to Thermal Energy Storage Systems for A/C
Wednesday, April 7, 2010 – 1:00 p.m. to 4:00 p.m. EDT

Complying with Standard 90.1-2007: HVAC/Mechanical
Monday, April 12, 2010 – 1:00 p.m. to 4:00 p.m. EDT

Energy Management in New & Existing Buildings: A Sustainable Activity
Wednesday, April 14, 2010 – 1:00 p.m. to 4:00 p.m. EDT

Complying with Standard 90.1-2007: Envelope/Lighting
Monday, April 19, 2010 – 1:00 p.m. to 4:00 p.m. EDT

Using Standard 90.1 to Meet LEED Requirements
Monday, April 26, 2010 – 1:00 p.m. to 4:00 p.m. EDT

Introduction to Cleanroom Design
Wednesday, April 28, 2010 – 1:00 p.m. to 4:00 p.m. EDT

District Cooling & Heating Systems: Central Plants
Monday, May 3, 2010 – 1:00 p.m. to 4:00 p.m. EDT

Complying with Requirements of ASHRAE Standard 62.1-2007
Wednesday, May 5, 2010 – 1:00 p.m. to 4:00 p.m. EDT



Understanding & Designing Dedicated Outside Air Systems (DOAS)
Monday, May 10, 2010 – 1:00 p.m. to 4:00 p.m. EDT

Hot Products from ASHRAE

A leader in HVAC&R technology, ASHRAE publications cover topics that impact every facet of the environment, both indoors and out.

Latest Publications from ASHRAE!

- ☐ *Standard 189.1-2009, Standard for the Design of High-Performance Green Buildings* (A Jurisdictional Compliance Option of the IGCC)
- ☐ *ASHRAE Handbook Online* – Web-Based access to all 4 volumes
- ☐ *ASHRAE Pocket Guide* – Useful information that fits in a shirt pocket
- ☐ *IAQ Guide: Best Practices for Design, Construction and Commissioning*
- ☐ *Load Calculation Applications Manual*

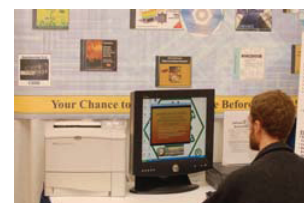
Other Products from ASHRAE!

- ☐ *Energy Efficiency Guide for Existing Commercial Buildings*
- ☐ *Dampers and Airflow Control*
- ☐ *Building Information Modeling Guide*
- ☐ *Advanced Energy Design Guide for Small Hospitals and Healthcare Facilities*
- ☐ *Principles of Heating, Ventilating, and Air Conditioning* – Textbook based on the 2009 ASHRAE Handbook - Fundamentals

Visit www.ashrae.org/bookstore to learn more about these and other outstanding ASHRAE publications!

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NEORUG Northeast Ohio
Revit User Group

and



CLEVELAND Chapter

The Construction Specifications Institute

presents:

Collaboration in the Construction Industry

By **Henry I. "Hank" Reder, AIA, Esq.**

Modern technology has provided a huge amount of information for those who work in the build environment. Modern trends have excited the desire to share that information. What are the risks and benefits of this collaborative effort? Where are we going? What are we doing? Why are we doing it?

Mr. Reder is an attorney at Bricker & Eckler and a registered architect. His 30 years as an attorney focuses on architectural and construction law representing a wide range of owners, architects, engineers, construction managers and contractors in hospital project consulting, planning, team building, contracts, design issues and construction claims or litigation. Mr. Reder is a member of the American Bar Association's Forum on the Construction Industry and Construction Litigation Section; a professional member of the Ohio State Bar Association and its construction law sub-committee; He is currently serving a five year appointment to AIA National's Risk Management Committee. Since 2006, he has been listed by Chambers USA, America's leading Lawyers for Business, in the area of Construction.

Wednesday, April 14

Meet & Greet **5:30 PM**

Presentation **6:00 PM**

WHEN

Thorson Baker & Associates

3030 West Streetsboro Rd.

Richfield, Ohio 44286

WHERE

Dinner will be provided by
Please **RSVP** by April 12 to Jennifer Storey
email: storeyj@bostwickdesign.com phone: 216.649.9427



Upcoming presentation by **David Spehar**,
May 6 **Get Your Revit Model Ready for Facilities Management**



The local Cleveland ASHRAE Chapter will again host a live viewing of the yearly webcast.

Come join us in the multimedia conference room at:

Karpinski Engineering
3135 Euclid Ave, Cleveland, 44115

Lunch provided at Noon.

Additionally there will be a number of Commissioning Professionals from the area for a Q&A session following the webcast.

Reserve your seat with Doug Barnes
DBarnes@Karpinskieng.com

See <http://www.ashrae.org/CXWebcast> for more information

April 21, 2010
1:00–4:00 PM EDT

A free webcast from ASHRAE



Right from the Start - Commissioning for High Performing Buildings



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

Who are the speakers?



Ronald Wilkinson, P.E., LEED™ AP,
Senior Commissioning Project Manager,
AKF Group LLC, New York, NY

Myth Busters



Rick Casault, P.E., CCP, CDT, President,
Casault Engineering, Seattle, WA

A Solid Foundation for Commissioning - Two Proactive Steps to Greater Benefits



H. Jay Enck, CxAP, HBDP, LEED™ AP, CPMP,
Founder/Principal/Senior Commissioning
Agent, Commissioning & Green Building
Solutions, Inc., Buford, GA

Transition from Construction to Operation - Maximizing Performance for Life

What will I learn?

This webcast will provide tools to help you overcome the hurdles of Commissioning, learn the “What, Why, When and Who” of the process, and how you can make it “business as usual.” The panel of experts will outline how Commissioning supports a smoother construction process, maximizes the quality and persistence of energy and cost reductions, and provides a facility that operates as it was intended.

The program will:

- Dispel common myths about Commissioning
- Show you how to make the Commissioning process work for you
- Clarify how to avoid or reverse performance decay
- Demonstrate through Case Studies how Commissioning improves ROI

How do I register?

Online registration will begin March 2, 2010 at www.ashrae.org/CxWebcast. There is no fee for registration. If you have any questions, e-mail us at ashrae-webcast@ashrae.org or call 678-539-1200.

Can I earn PDHs?

Yes! Three (3) Professional Development Hours (PDHs) or (3) AIA Learning Units may be awarded to viewers who complete the “Participant Reaction Form” following the webcast.

More about the webcast

This free webcast from the studio of Crawford Communications, Inc. in Atlanta, Georgia is intended to reach a cross section of professionals, including commissioning agents, design engineers, architects, contractors, building owners, developers, and facility managers. DVDs will be produced and made available for sale and use after the webcast. Please visit www.ashrae.org/bookstore or call 1-800-527-4723 (US/Canada) for more information.

How can I participate?

- Host a webcast site for your colleagues
- View the webcast at a site
- Register to view the webcast on your PC



ASHRAE RESEARCH PROMOTION



NEW ASHRAE STANDARD

As we take the first steps into this new year let's not forget about the strength that ASHRAE Research offers us as Professionals. The Cleveland Chapter is looking to help aid the Research department in designing and coming up with new ideas, methods and standards that will make all our lives easier. To that note the following is the newest standard AHSRAE has developed and it is directly related to High-Performance Green Buildings:

Standard 189.1 Published ¹

A new standard for the design of high-performance green buildings could revolutionize the building industry. ANSI/ASHRAE/USGBC/IES Standard 189.1, *Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings*, is the first code-intended commercial green building standard in the United States. The standard, published Jan. 22, provides a long-needed green building foundation for those who strive to design, build and operate green buildings. From site location to energy use to recycling, this standard will set the foundation for green buildings through its adoption into local codes. It covers topics including site sustainability, water use efficiency, energy efficiency, indoor environmental quality and the building's impact on the atmosphere, materials and resources.

¹ASHRAE e-Society

Your continued participation at this level is appreciated to meet this year's campaign goals to provide funding for current projects. Please go to ASHRAE.ORG/RESEARCH PROMOTION to learn what ASHRAE Research can do for you!



For more detail & information go to the Research Promotion [Quicklink!](#)

ASHRAE Research Promotion Chair for the Cleveland Chapter

[Bob Chmielewski](#)



ASHRAE MEMBERSHIP PROMOTION GOLF OUTING

DONORS



Cleveland ASHRAE extends its thanks to all of
the 2009 ASHRAE Membership Promotion
Golf Outing Door Prize Donors:



Air Control Products
Allied Equipment
Carrier Corporation
D.B. Johnson
Engineered Air
Fulton & Associates
JACCO & Associates
Johnson Controls Inc.
Ketchum & Walton
Liebert Associates of Cleveland
Mussun Sales
Pier Associates
R.L. Deppmann
The Trane Company
Victaulic
Wadsworth Slawson

To donate door prizes for this year's outing, contact:

Lee Hodkey
Phone: 216-391-3700
Email: lhodkey@karpinskieng.com



ASHRAE MEMBERSHIP PROMOTION GOLF OUTING

INFO/DIRECTIONS



Tuesday, June 8, 2010
SUGAR BUSH GOLF CLUB

9:00am	Registration Begins
10:00am	Shotgun Start
3:30pm	Cocktails
4:00pm	Steak Dinner/Prizes

Lunch will be provided at your turn
between holes 9 & 10, or 18 & 1

New members golf & dine for free with completed application & full payment of membership dues. Non-members are welcome.

We are playing for the prestigious **GARDINER TROPHY**
TOURNAMENT GOLF WILL BE PLAYED • Limited to 120 golfers

Sugar Bush Golf Club

11186 SR 88 · Garrettsville, OH 44231

330.527.4202

Directions from Akron:

Take I-76E to SR 5/44
north to Ravenna.
Take 14W/44N.
Take right at second traffic light (which is SR 88N).
Travel on SR 88N for about 15 miles.
Golf course will be on the right hand side.

Directions from Cleveland:

Take 480E/271 Interchange to
422E towards Solon.
Travel 422E until Mumford Rd.
Turn right onto Mumford Rd.
Continue on Mumford until it
dead-ends into SR 88S.
Turn right onto SR 88S.
Travel 1.5 miles and the golf course
will be on the left hand side.

Please see maps on following page...

How to get there...

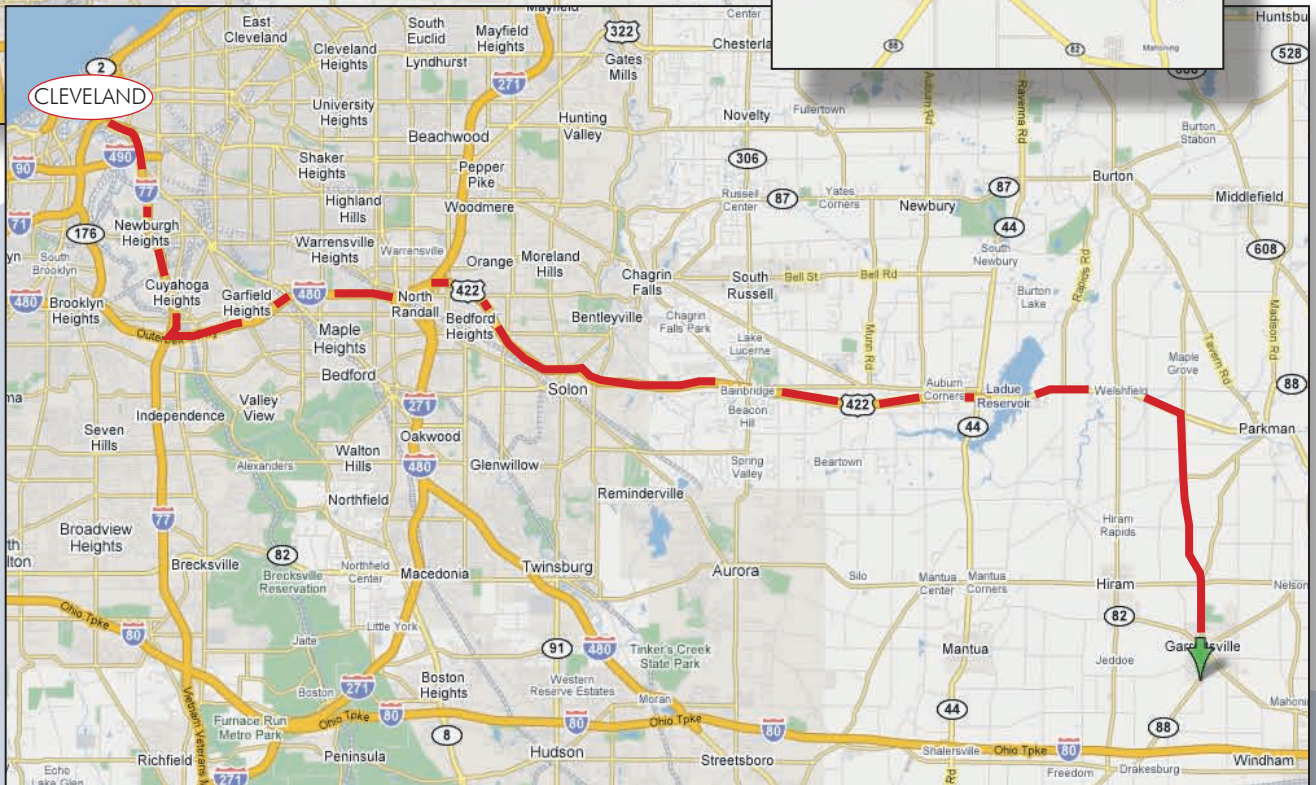
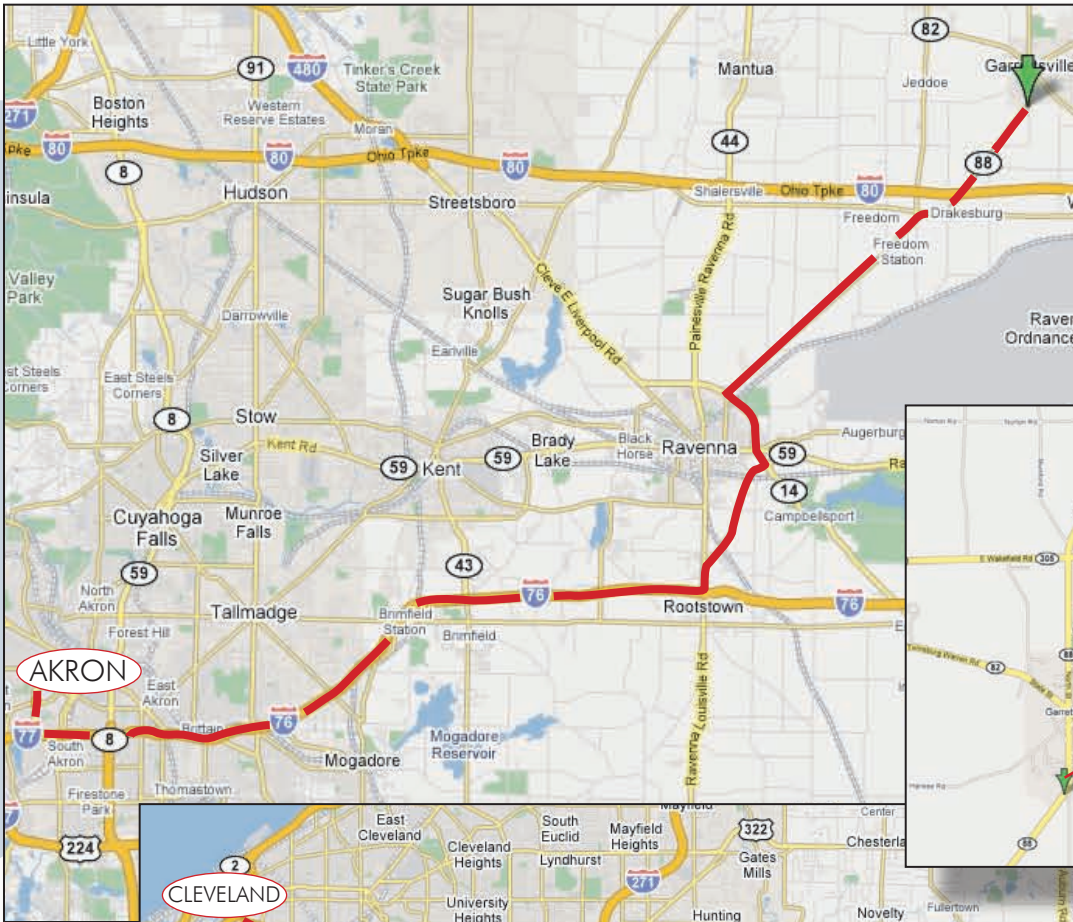
This event proudly supports the scholarship fund so graciously started by Mr. Sal Triana

Thanks to all, in advance, for your continued support of ASHRAE Cleveland



ASHRAE MEMBERSHIP PROMOTION GOLF OUTING

MAPS





ASHRAE MEMBERSHIP PROMOTION GOLF OUTING

SIGN-UP



**TUESDAY, JUNE 8, 2010
SUGAR BUSH GOLF CLUB**

	<u>Name</u>	<u>Company</u>	<u>Member (y/n)</u>
Team Captain (Sponsor)	_____	_____	_____
Player No. 2	_____	_____	_____
Player No. 3	_____	_____	_____
Player No. 4	_____	_____	_____

For each additional foursome please complete an additional registration

Golf & Dinner _____ x \$85/person = _____

Dinner Only _____ x \$25/person = _____

Sponsor a Hole _____ x \$75 = _____

(All signs will be provided by the Cleveland Chapter)

Name on Sign _____

Beverage Donation = _____

Cash donation to the Sal Triana Scholarship Fund = _____

Advanced 50/50 Raffle Tickets (7 for \$5) _____ x \$5 = _____

(tickets will be 5 for \$5 on the day of event) (7 tickets)

TOTAL = _____

Make Checks Payable To: CLEVELAND ASHRAE CHAPTER

Mail Payment To: CLEVELAND ASHRAE GOLF OUTING

c/o Karpinski Engineering

Attn: Matt Morgan

3135 Euclid Avenue

Cleveland, Ohio 44115

If you bring a non-member and they join the Society and the Cleveland chapter of ASHRAE that day, then that individual's golf and dinner is free. A completed application and a check for \$225.00 (made payable to ASHRAE) must be received on or by the day of the event.



CHAPTER CALENDAR



January 20, 2010

Lunch Meeting:
ASHRAE Learning Institute
Location: [Sheraton Rockside](#)

February 12, 2010

ASHRAE Social
Location: [Playhouse Square](#)

February 17, 2010

Lunch Meeting:
ASHRAE DL
Location: [Sheraton Rockside](#)

March 15, 2010

Mr. Gordon Holness, ASHRAE Society President
Location: [Harry's Steakhouse](#)

April 19, 2010

Cleveland USGBC
Location: [Harry's Steakhouse](#)

April 21, 2010

ASHRAE Webcast (Commissioning)
Location: [Karpinski Engineering Office - 1-4pm](#)

May 17, 2010

Improving Efficiency
Life Members and Past President's Night
Location: [Harry's Steakhouse](#)

June 2010

Membership Promotion Golf Outing
Location: [Sugar Bush](#)

June 26-30, 2010

Annual Conference
Location: [Albuquerque, NM](#)

August 13 & 14, 2010

Chapters Regional Conference
Location: [Cincinnati, OH](#)

January 29-February 2, 2011

Winter Conference
Location: [Las Vegas, NV](#)

