

Volume XXVI, Issue 8

Serving the Hudson Valley and Western Connecticut

April 2013

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Upcoming Events

- May 8 -Golf Outing
- June 12 -Hold the date

Meeting Wednesday April 10, 2013 Membership Promotion Night

Main Presentation: The Professional Responsibilities of the Engineer

Nahom A. Gebre, Esq., P.E., Risk Management Attorney, Victor O. Schinnerer & Company, Inc., will discuss the sources of legal liability for engineers and the basics of risk management for engineers. It is important to manage risk to increase profitability, improve business relationships, satisfy client expectations and avoid disputes. We will discuss a framework for managing risk that involves analysis, response and management.

Place: Casa Rina, 886 Commerce Street, Thornwood, NY 10592

Program: 5:30 - 6:00 PM Attitude Adjustment Time

6:00 - 7:30 PM Buffet Dinner 7:30 - 8:30 PM Main Presentation

\$25 Members, \$30 Non-Members

Engineering students: complimentary admission

The general public is invited and encouraged to attend. Walk-ins welcome.

Directions to Casa Rina

From Saw Mill Parkway - North or South

Exit at Marble Avenue - Exit # 27

Make right - continue to second traffic light

Make right onto Commerce Street

Casa Rina is the second house on your left.

Parking is on your right.

For questions about the program email:

John Fusco ifusco@olace.com

President's Message

By John A. Fusco, P.E., LEED AP

I would like to thank Hilti and Tour and Anderson/Victaulic for presenting last month. Also a thanks to James Kolk, our Research Promotion Charis, who helped arrange the presentations. We should all thank him by contributing to the Research Promotion campaign!

We have an informative presentation on professional liability this month presented by Nahom A. Gebre, Esq., P.E., Risk Management Attorney from Victor O. Schinnerer & Company, Inc. This is an often overlooked aspect of the field we are in, but ever so important.

Wednesday May 8 – Our Annual Golf Outing at The Links in Union Vale. Our flyer will be circulating shortly. Event and hole sponsorship information will be on the flyer as well.

Our final meeting in June is still in the planning stages, we may have a building tour and presentation in the works.

Lastly, but of most importance, is the need for volunteers to be active in our chapter activities. Our Officers, Committee Chairs, and Board of Governors (many wear multiple hats) meet once a month to plan out the chapter's activities and monthly meeting events. We are all volunteers in this endeavor, and do this to benefit the industry we are all a part of. I am asking for your consideration in helping out in this effort, as not only do we need people to help plan our various chapter activities and monthly meetings and presentations, the Bi-State Chapter is slated to host the 2014 CRC (Chapter/Regional Conference) where 15 chapters from the Northeast meet with the Region 1 society leaders over 3 days to discuss chapter and society business, conduct training, present awards and socialize. It is a major undertaking, and requires a tremendous effort on the Chapter's end to plan and coordinate all activities. We last hosted a CRC in 2000, for those who may remember. With help from our fellow members, we can make this upcoming CRC a success as well as set the foundation for future chapter leadership. Any Chapter officer or BOG member will be glad to explain further how you can help in our effort.

Please check for our emails and our website for information on upcoming events and to download current and past newsletters.

John A. Fusco, P.E., LEED AP Bi-State Chapter President

Historical Note — **Bob Roston**, **Bi-State Historian AC Apparatus**

"Although it is listed as an air conditioner, the device patented by C. L. Mumaugh in 1935 is described as having other beneficial properties as well. In addition to cooling perspiration-prone areas of the body, it is also capable of dispensing antiseptics, disinfectants and medications to said parts and 'can do so all day in public places and in an inconspicuous manner.' The apparatus consists of a pair of rubber bulbs that fits comfortably under each armpit. The normal movement of the arms allows the bulbs to fill with air and discharge it, thus ventilating the wearer. Drugs, deodorants, perfumes, disinfectants, etc., might be introduced into the bulbs."

— *This World*, January 19, 1986, page 10.

Energy Dept. Announces New Funding Opportunity for Innovative Small Modular Reactors

The U.S. Energy Department recently issued a new funding opportunity announcement to help U.S. industry design and certify innovative small modular nuclear reactors (SMRs). Building off the cost-share agreement announced in November 2012, this follow-on solicitation is open to other companies and manufacturers and is focused on furthering small modular reactor efficiency, operations and design.

The Energy Department will solicit proposals for cost-shared small modular reactor projects that have the potential to be licensed by the Nuclear Regulatory Commission and achieve commercial operation around 2025, while offering innovative and effective solutions for enhanced safety, operations and performance. Selected projects will span a five-year period with at least 50 percent provided by private industry. Subject to congressional appropriations, federal funding for this solicitation and the project announced last year will be derived from the total \$452 million identified for the Department's Small Modular Reactor Licensing Technical Support program.

Small modular reactors – which are approximately one-third the size of current nuclear power plants – have compact, scalable designs that are expected to offer a host of safety, construction and economic benefits. The Energy Department is seeking 300 megawatts or smaller reactor designs that can be made in factories and transported to sites where they would be ready to "plug and play" upon arrival. The smaller size reduces both capital costs and construction times and also makes these reactors ideal for small electric grids and for locations that cannot support large reactors.

Research Promotion Contribution Form

PLEASE COMPLETE THE INFORMATION BELOW AND RETURN WITH YOUR CONTRIBUTION TO:

James Kolk 528 Middle Street North Babylon, NY 11703

Individual Honor Roll beginning at \$100 Corporate Honor Roll beginning at \$150

Name	Member #
Company	Chapter_ <u>Bi-State</u>
Address	
City	StateZip
Please check one: () Pe () Company contribution	rsonal contribution
Charge my gift to: ()Visa ()M	laster Card ()American Express
Credit Card #	Expiration Date
Signature	

Investors with contributions of \$250 or more receive a wall plaque that can display six commemorative coins.

Contributions in any amount are gratefully received and 100% of the contribution goes directly to research. All contributions are tax deductible.

ASHRAE Bi-State Chapter Annual Golf Outing



Wednesday, May 8, 2013 The Links at Union Vale



Schedule:

11:30 am: check-in/lunch
1:00 pm: shotgun start
6:00 pm: dinner/awards

Costs:

- \$200 per player
- \$750 per foursome
- \$65 for dinner only

Return this form with payment by May 6, 2013

Note: If payment is not received prior to the golf outing, your reservation may not be accepted.

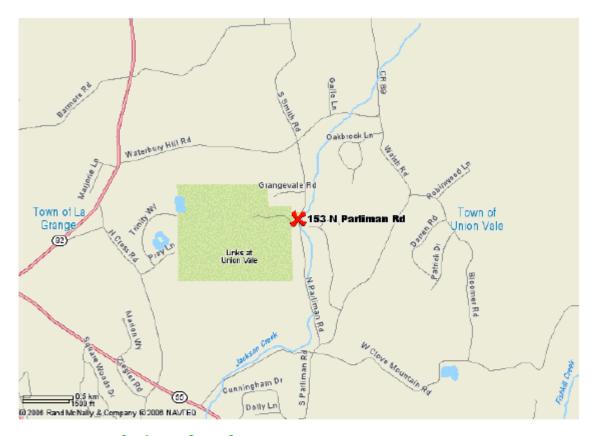
Na	ame:	_ Phone:		
Сс	ompany Name:			
	ompany Address:			
	nail:			
	Individual for lunch/golf/dinner \$200	0	Tee Sponsor	\$200
	Individual for dinner only\$65		Beverage Cart Sponsor	\$1000
	Foursome for lunch/golf/dinner \$750		Lunch Sponsor	\$1500
	Please check off participation level above and m	ake checks	s payable to: ASHRAE Bi-State	e Chapter.
Lis	st names of golfers below. (If less than four, the g	olf committee	will complete pairings.)	
1.		3		
2.		4		



ASHRAE Bi-State Chapter Annual Golf Outing



Directions to The Links at Union Vale 153 North Parliman Road, Union Vale, NY 12540 (845)223-1002 www.thelinksatunionvale.com



From New York City and South:

- · Take the Taconic State Parkway north to Route 82 North.
- Travel 4-1/2 miles and make a right onto County Route 89
- Take the first right onto North Parliman Road (1 mile).
- Golf Course is 1/2 mile on right.

From East or West:

- Take Interstate 84 (east or west) to the Taconic State Parkway north (6-3/4 miles) to Route 82 North.
- Travel 4-1/2 miles and make a right onto County Route 89.
- Take the first right onto North Parliman Road (1 mile).
- Golf course is 1/2 mile on right.

From the North:

- Take the Taconic State Parkway south to Route 55 east towards Pawling.
- Take a left at the first light (Route 82 north).
- Make a right onto County Route 89
- Take the first right onto North Parliman Road (1 mile).
- Golf Course is 1/2 mile on right.

'Flammable Ice'

Japan reports that it has extracted gas from offshore deposits of methane hydrate — sometimes called "flammable ice" — a breakthrough that officials and experts said could be a step toward tapping a promising but still little-understood energy source. The gas, whose extraction from the undersea hydrate reservoir was thought to be a world first, could provide an alternative source of energy to known oil and gas reserves. That could be crucial especially for Japan, which is the world's biggest importer of liquefied natural gas and is engaged in a public debate about whether to resume the country's heavy reliance on nuclear power.

Experts estimate that the carbon found in gas hydrates worldwide totals at least twice the amount of carbon in all of the earth's other fossil fuels, making it a potential game-changer for energy-poor countries like Japan. Researchers had already successfully extracted gas from onshore methane hydrate reservoirs, but not from beneath the seabed, where much of the world's deposits are thought to lie.

The exact properties of undersea hydrates and how they might affect the environment are still poorly understood, given that methane is a greenhouse gas. Japan has invested hundreds of millions of dollars since the early 2000s to explore offshore methane hydrate reserves in both the Pacific and the Sea of Japan. That task has become all the more pressing after the Fukushima Daiichi nuclear crisis, which has all but halted Japan's nuclear energy program and caused a sharp increase in the country's fossil fuel imports. Japan's rising energy bill has weighed heavily on its economy, helping to push it to a trade deficit and reducing the benefits of the recently weaker yen to Japanese exporters.

The Japanese Ministry of Economy, Trade and Industry said a team aboard the scientific drilling ship Chikyu had started a trial extraction of gas from a layer of methane hydrates about 300 meters, or 1,000 feet, below the seabed. The ship has been drilling since January in an area of the Pacific about 1,000 meters deep and 80 kilometers, or 50 miles, south of the Atsumi Peninsula in central Japan. With specialized equipment, the team drilled into and then lowered the pressure in the undersea methane hydrate reserve, causing the methane and ice to separate. It then piped the natural gas to the surface, the ministry said in a statement. Hours later, a flare on the ship's stern showed that gas was being produced, the ministry said. "Japan could finally have an energy source to call its own," said Takami Kawamoto, a spokesman for the Japan Oil, Gas and Metals National Corporation, or Jogmec, the state-run company leading the trial extraction. The team will continue the trial extraction for about two weeks before analyzing how much gas has been produced, Jogmec said. Japan hopes to make the extraction technology commercially viable in about five years.

"This is the world's first trial production of gas from oceanic methane hydrates, and I hope we will be able to confirm stable gas production," Toshimitsu Motegi, the Japanese trade minister, said at a news conference in Tokyo. He acknowledged that the extraction process would still face technical hurdles and other problems. Still, "shale gas was considered technologically difficult to extract but is now produced on a large scale," he said. "By tackling these challenges one by one, we could soon start tapping the resources that surround Japan."

It is unclear how much the tapping of methane hydrate would affect Japan's emissions or global warming. On one hand, natural gas would provide a cleaner alternative to coal, which still provides Japan with a fifth of its primary energy needs. But new energy sources could also prompt Japan to slow its development of renewable energies or green technologies, hurting its emissions in the long run. Any accidental release of large amounts of methane during the extraction process would also be harmful.

Jogmec estimates that the surrounding area in the Nankai submarine trough holds at least 1.1 trillion cubic meters, or 39 trillion cubic feet, of methane hydrate, enough to meet 11 years' worth of gas imports to Japan. A separate rough estimate by the National Institute of Advanced Industrial Science and Technology has put the total amount of methane hydrate in the waters surrounding Japan at more than 7 trillion cubic meters, or what researchers have long said is closer to 100 years' worth of Japan's natural gas needs.

"Experts say there are abundant deposits of gas hydrates in the seabed and in some Arctic regions. Japan, together with Canada, has already succeeded in extracting gas from methane hydrate trapped in permafrost soil. American researchers are carrying out similar test projects on the North Slope of Alaska. The difficulty had long been how to extract gas from the methane hydrate far below the seabed, where much of the deposits lie. In onshore tests, Japanese researchers explored using hot water to warm the methane hydrate, and tried lowering pressure to free the methane molecules. Japan decided to use depressurization, partly because pumping warm water under the seabed would itself require a lot of energy. "Gas hydrates have always been seen as a potentially vast energy source, but the question was, how do we extract gas from under the ocean?" said Ryo Matsumoto, a professor in geology at Meiji University in Tokyo who has led research into Japan's hydrate deposits. "Now we've cleared one big hurdle."

According to the United States Geological Survey, recent mapping off the North Carolina and South Carolina coasts shows large offshore accumulations of methane hydrates. Canada, China, Norway and the United States are also exploring hydrate deposits. Scientists at the geological survey note, however, that there is still a limited understanding of how drilling for hydrates might affect the environment, particularly the possible release of methane into the atmosphere, and are calling for continued research and monitoring.



Integrated design is changing the way buildings are designed, constructed and operated; different professionals each bring an important element to the table that results in a successful, sustainable building. Education is no different: Students bring the ambition, ASHRAE offers the financial support, and together they create an educational degree that will lay the foundation for a sustainable career.

Please help ASHRAE promote the availability of **more than 20 Society scholarships** for the 2013–2014 school year, available to high school seniors entering college through senior undergraduate engineering students.

- Two High School Senior Scholarships—\$3,000 each
- Three Engineering Technology Scholarships—\$3,000 each
- Six Regional and University-Specific Scholarships—\$3,000—\$5,000 each
- 11 Undergraduate Engineering Scholarships—\$3,000-\$10,000 each



"The support the scholarship provides has relieved an enormous worry about the cost of tuition. The Willis H. Carrier Scholarship has solidified my involvement in ASHRAE and motivated me to work hard to complete my degree so that I can contribute as much to the HVAC&R industry as Willis H. Carrier has."

Partrick McGrail, 2012-2013 recipient of the Willis H. Carrier Scholarship, secretary of the ASHRAE Kansas State Student Branch

Annual Application Deadlines:

December 1 for Undergraduate Engineering, Regional and University-specific Scholarships.

May 1 for Engineering Technology and High School Senior Scholarships.

Scholarships are awarded for the academic year following the application deadline beginning with the fall semester. For a list of available scholarships, complete eligibility requirements, and an application, visit www.ashrae.org/scholarships

ASHRAE Learning Institute 2013 Spring 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 course. Courses are in US Eastern Standard Time.

Basics of High-Performance Building Design Mon, March 18, 2013 – 1:00 pm to 4:00 pm ET

Air-to-Air Energy Recovery Fundamentals Wed, March 20, 2013 – 1:00 pm to 4:00 pm ET

Advanced High-Performance Buildings Design Mon, March 25, 2013 – 1:00 pm to 4:00 pm ET

Air-to-Air Energy Recovery Applications: Best Practices

Wed, March 27, 2013 - 1:00 pm to 4:00 pm ET

Complying with Standard 90.1-2010: Envelope/Lighting

Wed, April 17, 2013 - 1:00 pm to 4:00 pm ET

Humidity Control Troubleshooting Mon, April 22, 2013 – 1:00 pm to 4:00 pm ET

Combined Heat & Power: Creating Efficiency Through Design & Operations

Wed, April 24, 2013 - 1:00 pm to 4:00 pm ET

Complying with Standard 90.1-2010: HVAC/Mechanical Mon, April 29, 2012 – 1:00 pm to 4:00 pm ET

The Commissioning Process & Guideline 0 Wed, May 1, 2013 – 1:00 pm to 4:00 pm ET

Fundamental Requirements of Standard 62.1-2010 Wed, April 17, 2013 – 1:00 pm to 4:00 pm ET

* Take 3 or more courses and save 20% off registration!

HVAC Design Training

2 Courses, 5 Days of Intense Instruction

March 18-22, 2013 • June 3-7, 2013 • August 12-16, 2013

HVAC Design: Level I - Essentials

This training provides intensive, practical education for designers and others involved in delivery of HVAC services. Gain practical skills and knowledge in designing, installing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection using the newly renovated ASHRAE Headquarters building as a living lab.

HVAC Design: Level II - Applications

Developed by industry-leading professionals, the training course provides participants with advanced level information about designing, installing and maintaining HVAC systems that can be put to immediate use. Participants will gain an in-depth look into Standards 55, 62.1, 90.1, and 189.1 and the Advanced Energy Design Guides, as well as a range of other HVAC topics including: HVAC equipment and systems; energy modeling; designing mechanical spaces; designing a chiller plant; and BAS controls.

Creating Effective, Highly Skilled Engineering Team Members

- Gain knowledge to make immediate contributions to design projects
- Participate in in-depth, practice-focused training
- Learn from industry leaders selected by ASHRAE
- Receive free bonus resources valued at over \$200

Visit www.ashrae.org/hvacdesign to register

Brought to you by the ASHRAE Chapter Technology Transfer Committee

Presenters



Thomas E. Watson, ASHRAE President





Drury Crawley, Ph.D

ww.ashrae.org/abepwebcas



Jim Kelsey, LEED AP, P.E., BEAP



Christopher Mathis

Assessing **Building Energy** Performance:

From Principles to Practice

April 18, 2013 | 1:00 PM-4:00 PM EDT

This webcast will feature industry experts who will explain the importance of building energy performance and its far-reaching implications in both new and existing buildings. Viewers will also learn about the various tools and approaches that are available, as well as the many opportunities that assessing building energy performance presents.

How to Participate

- You may register to view the webcast on your PC
- You may host a webcast viewing site for your colleagues
- · View the webcast at a site

PDH Credits

Three (3) Professional Development Hours (PDHs) or three (3) AIA Learning Units (LUs) may be awarded to viewers who complete the "Participant Reaction Form" by May 2, 2013.

For more information about the program, presenters, continuing education credits, sponsorships, and ABEP resources, please visit us at www.ashrae.org/ABEPwebcast OR scan this tag with your smart phone.





Bi-State Chapter Officers and Governors 2012—2013

Position	First Name	Last Name	Email	Phone	Fax
Officers					
President	John	Fusco	jfusco@olace.com	(914) 747-2800	(914) 747-0453
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Why Be Involved in a Local Chapter?

- Learn about the latest technologies presented in the program sessions
- Attain continuing education credits
- Meet industry associates and discuss local concerns
- Network amongst designers, installers, vendors, educators, in your local area to help improve business for all
- Share experiences with others
- Enjoy a social hour
- Carry out ASHRAE's mission on a local level

To advance the arts and sciences of heating, ventilating, air conditioning and refrigerating to serve humanity and promote a sustainable world.

ASHRAE Region I 2012-13 Executive Committee and Society Contacts

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Joyce Abrams

Jodi Scott

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Notice to business card advertisers:

We are currently accepting business card advertisements for this year's newsletters. The cost of a business card ad is \$125.00. The newsletter is published monthly, September through June (ten issues). That means for \$125.00 (\$12.50 an issue), your business card ad will circulate to approximately 300 recipients a month or an advertising cost of approximately 4 cents/recipient.

If you are interested in placing an ad, please forward a business card and check (payable to ASHRAE Bi-State) to:

ASHRAE Bi-State Chapter

DL Flow Tech 2421 Route 52 Hopewell Junction, NY 12533



















LAWRENCE STURGIS EXECUTIVE VICE PRESIDENT 1 PAULDING STREET ELMSFORD, NY 10523 PHONE: 914-592-1776 FAX: 914-592-1904 e maii: larrysturgis@gmail.com Westchester, Putnam, Rockland, Orange Ulster, Sullivan, Dutchess, Fairfield & Litchfield, Ct.

Employment Opportunities

Employment ads may be submitted for inclusion in **The Exchanger** as follows:

- 1. \$100.000 from companies placing ad for one (1) month.
- 2. \$150.00 from companies placing ad for two (2) months.
- 3. No charge for members looking for employment.

Earth Warming at Epic Rate According to Study

Earth's climate has gone from one of its coldest decades since the last ice age to one of its hottest in just one century. A heat spike like this has never happened before, at least not in the last 11,300 years, according to a new study by Oregon State University and Harvard University on global temperatures for that time period. The Earth was very cold at the turn of the 20th century. The decade from 1900 to 1909 was colder than 95% of the last 11,300 years, the study found. However, between 2000 and 2009, it was hotter than about 75% of the last 11,300 years.



ASHRAE, founded in 1894, is a building technology society with more than 50,000 members worldwide. The Society and its members focus on building systems, energy efficiency, indoor air quality and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow's built environment today.

ASHRAE will be the global leader, the foremost source of technical and educational information, and the primary provider of opportunity for professional growth in the arts and sciences of heating, ventilating, air conditioning and refrigerating.

Upcoming Meetings

Month	Date	Promotion	Main Presentation	Tech Session
April	4/10/2013	Sustainability	Nahom A. Gebre, Esq., P.E. Risk Management Attorney Victor O. Schinnerer & Company, Inc. Engineering Design Liability Issues	
May	5/8/2013	Student Activities	Golf Outing	
June	6/12/2013	Student Scholarships	Hold the date	



Take advantage of the opportunity to discuss and examine the latest topics in the building industry, such as high performing buildings and integrated design, through the technical program; participate in technical tours; attend ASHRAE Learning Institute courses; and earn professional credits.

Research Summit — held in conjunction with the 2013 Annual Conference. The summit addresses the latest research results, innovative research techniques and forecasts future research directions.

Technical Program — presentations and papers focus on current research worldwide; core HVAC&R applications and systems; and Integrated Project Design, Energy Modeling and Building Efficiency Performance.

Networking — share ideas and learn from fellow members from your hometown and around the world.

ASHRAE Learning Institute — seven in-depth training courses including a new Professional Development Seminar on Operations and Maintenance of High-Performance Buildings and a new Short Course on Optimization of HVAC Systems and their Components.







Register

Early for the Best Deal!

www.ashrae.org

\$\$\$ Special first time attendee registration fee available!

Study: 'Waste Heat' May Economize CO₂ Capture

In some of the first results from a federally funded initiative to find new ways of capturing carbon dioxide (CO₂) from coal-fired power plants, Rice University scientists have found that CO₂ can be removed more economically using 'waste' heat - low-grade steam that cannot be used to produce electricity. The find is significant because capturing CO₂ with conventional technology is an energy-intensive process that can consume as much as one-quarter of the high-pressure steam that plants use to produce electricity. "This is just the first step in our effort to better engineer a process for capturing CO₂ from flue gas at power plants," said George Hirasaki, the lead researcher of Rice's CO₂-capture research team. The researchers hope to reduce the costs of CO₂ capture by creating an integrated reaction column that uses waste heat, engineered materials and optimized components. Hirasaki's team was one of 16 chosen by the Department of Energy (DOE) in 2011 to develop innovative techniques for reducing greenhouse gas emissions from power plants.