

Ashrae Bistate Chapter

Volume XXV, Issue III

Serving the Hudson Valley and Western Connecticut

November 2011

Meeting Wednesday November 9, 2011

Presentation: NYSERDA Programs

Harris Schaer will be presenting on current funding opportunities for various NYSERDA Programs.

Tech Session: Analysis of Utility Bills

James Coyle of Malcolm Pirnie will be presenting on utility bill analysis. A complete analysis of a facility's energy bills requires a detailed knowledge of the rate structures in effect for the facility. To determine accurate costs of operating individual pieces of equipment, separate energy bills into their components. E.g. demand charge and energy charges for the electric bill. This breakdown also allows more accurate savings calculations for Energy Management Opportunities (EMOs) such as high-efficiency equipment, rescheduling of some on-peak electrical uses, etc.

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 / Tech Session 7:30 - 8:30 PM Main Presentation
	\$25 Members, \$30 Non-Members Engineering students: complimentary admission
The general p	public is invited and encouraged to attend.
Directions to	Casa Rina

<u>Directions to Casa Rina</u> 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.

Please make reservations by contacting:

Nicholas Salomone ashraebistate@gmail.com Carmen Yellen carmen.yellen@gmail.com

December 14th -Holiday Party

Upcoming Events

- January I I th -
- Wireless Controls
- February 8th -Save the date
- March 14th Save the date
- April 11th -Save the date
- May 9th Save the date
- June 13th -Golf Outing

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President's Message

By Nicholas Salomone

Last month we had our first two (2) PDH night of the year! Evans Lizardos gave the main presentation on absorption vs. electric chiller technologies and Tom Neill gave the technical session on hybrid boiler plants. You will find many more presentations this year on energy conservation, and if you know any engineering students who go to school in the Westchester or Fairfield area, the monthly meetings are free! For November, Harris Schaer from NYSERDA will be presenting on current funding opportunities for various NYSERDA programs and James Coyle from Malcolm Pirnie will do the technical session on analyzing utility bills. I hope you can join us!

Nicholas Salomone Bi-State Chapter President

Historical Notes — Bob Roston, Bistate Historian

Keeping Warm in Kabul

"In Kabul, Kandahar and other towns inhabited by the rich and great, some attempt is made to combat chilly weather. The walls are thick, and loopholes having no part of the builder's scheme, drafts are practically unknown. Besides, great screens and heavily curtained doorways help to drive away the cold air; the windows are covered in a similar manner. The last-named, by the way, are seldom opened in winter time, and with the result that each abiding place reeks horribly. The Afghan, luckily, does not mind a stench; for him an odoriferous atmosphere spells comfort."

-How they keep warm in Afghanistan. "The Heating and Ventilating Magazine." April, 1928.

UN Report Ties Climate Change to Weather

A draft UN report three years in the making concludes that man-made climate change has boosted the frequency or intensity of heat waves, wildfires, floods and cyclones and that such disasters are likely to increase in the future. The document being discussed by the world's Nobel-winning panel of climate scientists says the severity of the impacts vary, and some regions are more vulnerable than others.

The report, to be published in November, 2011 by the Intergovernmental Panel for Climate Change (IPCC) is titled *The Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*.

"This is the largest effort that has even been made to assess how extremes are changing," said Neville Nicholls, a professor at Monash University in Melbourne, Australia, and a coordinating lead author of one of the review's key chapters. The overall picture that emerges is one of enhanced volatility and frequency of dangerous weather, leading in turn to a sharply increased risk for large swathes of humanity in coming decades.

Skeptic Now Agrees Global Warming is Real

A prominent physicist and skeptic of global warming spent two years trying to find out if mainstream climate scientists were wrong. In the end, he determined they were right: temperatures really are rising rapidly. The study of the world's surface temperatures by Richard Muller was partially bankrolled by the Charles Koch Foundation, an organization connected to global warming skeptics. He pursued long-held skeptic theories in analyzing the data. He was spurred to action because of "Climategate," a British scandal involving hacked emails of scientists.

Yet he found that the land is 1.6°F warmer than in the 1950s. Those numbers from Muller, who works at the University of California, Berkeley, and Lawrence Berkeley National Lab, match those by the National Oceanic and Atmospheric Administration and NASA. Muller said he went even further back, studying readings from Benjamin Franklin and Thomas Jefferson.

New Guidance Released to Help Schools Earn Top Marks in Energy Efficiency

Inefficient lighting, uncontrolled plug loads and poorly insulated roofs are just few of the factors that can contribute to a failing grade in energy consumption for K-12 school buildings. Fortunately, guidance is available to help design teams constructing K-12 school buildings cut annual energy use by 50 percent or more using off-the-shelf technology.

To help ensure schools receive an A+ in energy efficiency; owners, engineers, designers, architects and others on the building team are encouraged to download the free Advanced Energy Design Guide for K-12 School Buildings: Achieving 50% Energy Savings Toward a Net Zero Energy Building. The guide is the second to be released in a series which provides recommendations to achieve 50 percent energy savings when compared with the minimum code requirements of ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings.

Advanced Energy Design Guides, or AEDGs, allow owners, contractors, consulting engineers, architects and designers to easily achieve advanced levels of energy savings without detailed energy modeling or analyses. Written in partnership with ASHRAE, the American Institute of Architects, the Illuminating Engineering Society of North America, the U.S. Green Building Council and the U.S. Department of Energy, the guides are available for free in electronic form at <u>www.ashrae.org/freeaedg</u>.

"Significant research demonstrates that the quality of the physical environment affects student performance," Shanti Pless, chair of the steering committee, said. "An environment that includes appropriate lighting, sound, temperature, humidity, cleanliness, color and air quality can help students learn better. In many cases, improving these attributes can also reduce energy use."

The new guide features easy-to-follow recommendations for various climate zones and how to implement tips via a series of real-life school construction case studies. Also included is information on integrated design, including best practices, as a necessary component in achieving 50% energy, and the inclusion of a performance path; specifically, offering guidance for early stage energy modeling and annual energy use targets to help with goal setting

Additional design tips include:

- High performance building envelope that is better than Standard 90.1-2004.
- Different ways to daylight 100 percent of the floor area of classrooms, resource rooms, cafeterias, gymnasiums and multipurpose rooms for two thirds of school hours.
- Methods to achieve space-by-space interior lighting power densities that are, on average, 40 percent better than Standard 90.1-2004.
- Ways to reduced exterior (façade, walkway, parking lot and drive) lighting energy consumption.
- Recommendations for computers, vending machines, kitchen cooking equipment, walk-in refrigeration equipment, kitchen exhaust hoods and service water heating.
- Three different HVAC system types that achieve significant energy savings over a typical system.
- Recommendations for commissioning and measurement and verification to ensure that energy savings potentials are realized.

The AEDG also addresses the notion that energy efficient buildings are more expensive.

"Owners should not expect energy-efficient schools to cost more; they can cost more, but they shouldn't have to. The tips, guidelines and tables included in the newest AEDG for K-12 schools can set building owners on their way to more energy efficient, productive schools in a cost efficient manner," Pless said.

The 50% Advanced Energy Design Guide series follows an earlier six-book series that provided guidance to achieve 30 percent savings. The ultimate goal is to provide guidance to achieve net zero energy buildings; that is, buildings that, on an annual basis, produce more energy than they consume.

ASHRAE, AIA, IES, DOE and USGBC are currently developing the third guide in the 50 percent series, which will focus on medium/big box retail. Publication is targeted for winter of 2012, followed by large hospitals in the spring of that year.

Advanced Energy Design Guide for K-12 School Buildings: Achieving 50% Energy Savings Toward a Net Zero Energy Building is available as a free download at <u>www.ashrae.org/freeaedg</u>.

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ASHRAE Learning Institute

Seminars & Courses at ASHRAE's Winter Conference in Chicago, IL

2 WAYS TO REGISTER

Internet: <u>www.ashrae.org/lasveqascourses</u> Phone: Call 1-800-527-4723 (US and Canada) or 404-636-8400 (worldwide)



Full Day Professional Development Seminar

\$485/\$395 ASHRAE Member -- Earn 6 PDHs/AIA LUs or .6 CEUs

The Commissioning Process in New & Existing Buildings Saturday, Jan 21 – 8:00 a.m. to 3:00 p.m.

Data Center Energy Efficiency Saturday, Jan 21 – 8:00 a.m. to 3:00 p.m. Using Standard 90.1 to Meet LEED Requirements Tuesday, Jan 24 – 9:00 a.m. to 4:00 p.m.

Energy Modeling Best Practices and Applications: HVAC/Thermal Tuesday, Jan 24 – 9:00 a.m. to 4:00 p.m.

Integrated Building Design Saturday, Jan 21 – 8:00 a.m. to 3:00 p.m.

Half Day Short Courses

\$159/\$119 ASHRAE Member -- Earn 3 PDHs/AIA LUs or .3 CEUs

Understanding Air-to-Air Energy Recovery Technologies & Applications Sunday, Jan 22 – 2:00 p.m. to 5:00 p.m.	Comply with Standard 90.1-2010: HVAC/Mechanic Monday, Jan 23 – 2:30 p.m. to 5:30 p.m.	al
Understanding & Designing Dedicated Outdoor Air Systems (DOAS) Sunday, Jan 22 – 2:00 p.m. to 5:00 p.m.	Evaluating the Performance of LEED-Certified Bui Monday, Jan 23 – 2:30 p.m. to 5:30 p.m.	ldings
Application of Standard 62.1-2010: Multiple Spaces Equations	Combined Heat & Power	
& Spreadsheet Calculation	Tuesday, Jan 24 – 9:00 a.m. to 12:00 p.m.	
Sunday, Jan 22 – 2:00 p.m. to 5:00 p.m.		AKA I
	Healthcare Facilities: Best Practice Design	1
Basics of High-Performance Building Design		
Monday, Jan 23 – 8:30 a.m. to 11:30 a.m.		ASHRAE
nonday, dan 20 - 0.00 a.m. to 11.00 a.m.	Project Management for Improved IAQ	
Complying with Standard 90.1-2010: Envelope/Lighting	Tuesday, Jan 24 – 9:00 a.m. to 12:00 p.m.	
Monday, Jan 23 – 8:30 a.m. to 11:30 a.m.		
Monday, Jan 25 - 6.30 a.m. to 11.30 a.m.		
From Management in New & Fridding Dollations	Healthcare Facilities: Best Practice Applications	
Energy Management in New & Existing Buildings Monday, Jan 23 – 8:30 a.m. to 11:30 a.m.	Tuesday, Jan 24 - 1 00 p.m. to 4 00 p.m.	
	Design Toward Net Zero Energy Commercial Build	dinas
Advanced High Performance Building Design	Tuesday, Jan 24 1.00 p.m. to 4.00 p.m.	

Monday, Jan 23 – 2:30 p.m. to 5:30 p.m.

The Commissioning Process & Guideline 0 Monday, Jan 23 – 2:30 p.m. to 5:30 p.m.

ASHRAE HVAC Design Essential Workshop

January 11-13, 2012 • ASHRAE Foundation Learning Center • Atlanta, GA

Obtain the skills needed to:

- Improve overall building performance
- Design high-performance HVAC systems
- Effectively collaborate on an integrated design team

ASHRAE has created the HVAC Design Essentials to provide intensive, practical education for designers and others involved in delivery of HVAC services. Developed by industry-leading professionals, this workshop provides participants with training design to accelerate their evolution into effective member on a design, construction or facilities maintenance team.

In addition to gaining in-depth knowledge and understanding, attendees will receive real-world examples of HVAC systems based on the newly renovated ASHRAE Head quarters building. The workshop teaches a systematic approach to guide a design team to a solution that optimally meets the client's expectations.

Visit www.ashrae.org/hvacdesign to register



Officers and Governors 2011—2012

Position	First Name	Last Name	Email	Phone	Fax
Officers					
President	Nicholas	Salomone	ashraebistate@gmail.com		
President-Elect	Carmen	Yellen	Carmen.Yellen@gmail.com		
Vice President	Erica	Ross	eross@balticare.net	(646) 380-9486	
Secretary	Carmen	Yellen	cbyellen@arbpe.com	(914) 238-5433 ext 122	(914) 238-4472
Treasurer	Dennis	LaVopa	dlavopa@dlFlowTech.com	(845) 265-2828	(845) 265-2745
Governors					
Past President/Delegate	Enzo	Carlesimo	ecarlesimo@collado-eng.com	(914) 332-7658	(914) 332-7659
BOG (term ends June 2014)	Steven	Abbattista	sabbattista@olace.com	(914) 747-2800	(914) 747-0453
BOG (term ends June 2014)	Cliff	Konitz	c.konitz@verizon.net	(845) 297-5864	(845) 297-5864
BOG (term ends June 2014)	Joseph	Trongone	jatrong@optonline.net	(914) 741-1290	
BOG (term ends June 2013)	Michael	Circosta	mjcarmonk@optonline.net		
BOG (term ends June 2013)	Albert	Collado	acollado@collado-eng.com	(914) 332-7658	(914) 332-7659
BOG (term ends June 2013)	Robert	Roston	bob@rostonfamily.com	(914) 761-3364	(914) 761-1811
BOG (term ends June 2012)	James	Dolan	jdolan@olace.com	(914) 747-2800	(914) 747-0453
BOG (term ends June 2012)	John	Fusco	jfusco@olace.com	(914) 747-2800	(914) 747-0453
BOG (term ends June 2012)	Lawrence	Sturgis	smacna.seny@verizon.net	(914) 592-1776	(914) 592-1904
Committee Chairs					N
СТТС	Carmen	Yellen	Carmen.Yellen@gmail.com		
Research Promotion	Terry	Connor	Terry.Connor@jci.com	(914) 593-5223	(914) 593-5201
Student Activities	Carmen	Yellen	Carmen.Yellen@gmail.com	1	1
TEGA	Lawrence	Sturgis	smacna.seny@verizon.net	(914) 592-1776	(914) 592-1904
Membership Promotion	Terry	Connor	Terry.Connor@jci.com	(914) 593-5223	(914) 593-5201
Refrigeration	John	Fusco	jfusco@olace.com	(914) 747-2800	(914) 747-0453
Vebmaster	Cliff	Konitz	c.konitz@verizon.net	(845) 297-5864	(845) 297-5864
Newsletter Editor	Michael	Gordon	gordonm@emfcontrols.com	(914) 747-1007	(914) 747-1054
Historian	Robert	Roston	bob@rostonfamily.com	(914) 761-3364	(914) 761-1811
Reception	Joseph	Trongone	jatrong@optonline.net	(914) 526-3441	
Attendance	Cliff	Konitz	c.konitz@verizon.net	(845) 297-5864	(845) 297-5864
Golf	Steven	Abbattista	sabbattista@olace.com	(914) 747-2800	(914) 747-0453

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." VOLUME XXV, ISSUE III

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ASHRAE Region I Roster 2011-12 Executive Committee DRC – Director & Regional Chair **RVC Student Activities** Spencer Morasch Om Taneja, PhD, Dr. Jersey Central Power & Light USDSA 331 Newman Springs Road, Bldg. 3 Suite 325 79 Summit Dr Red Bank, NJ 07701 –5688 Basking Ridge, NJ 07920-1960 732-212-4133 212-264-4465 smorasch@firstenergycorp.com om.taneja@gsa.gov ARC – Assistant Regional Chair & Treasurer **Regional Chapter Programs Chair** Joseph Furman Peter Oppelt Automated Logic R.F. Peck Co. 16 Country Way 191 Moorland Rd Wallingford, CT 06492-5356 Rochester, NY 14612-3421 203-678-2208 585-227-1720 joe.furman@automatedlogic.com poppelt@rfpeck.com Nominating Committee Member **Regional Refrigeration Chair** Steven D Friedman, PE, HFDP, LEED AP Emery Otruba, P.E. AKF Engineers, PC. Evergreen Engineering 330 West 42nd Street. 14th floor 262 Johnson Hill Road Hoosick Falls, NY 12090-4615 New York, NY 10036 518-225-2771 212-548-1412 eotruba@verizon.net sfriedman@AKFGroup.com Nominating Committee Alternate **Regional Historian** Russell J Stuber Alexander Weiss, PE U & S Services Inc 233 Fillmore Ave Ste 11 8 Bergen Beach Pl Tonawanda, NY 14150-2316 Brooklyn, NY 11234-5743 716-693-4490 718-251-1154 stuberr@usservicesinc.com weisseng@gmail.com **RVC Membership Promotion** Regional Electronics Comm. Chair & Newsletter Judge Richard E Vehlow, PE Heather L. Nowakowski, P.E. NYS OGS BU1 Roswell Park Cancer Institute 33Rd Fl Corning Tower Elm & Carlton Streets Albany, NY 12242-0001 Buffalo, NY 14263 518.474.2471 716-845-3521 heather.nowakowski@roswellpark.org Rev1969@gmail.com **RVC Research Promotion** Director of Member Services Darcy A Carbone Carolyn Kettering Stebbins-Duffy, Inc. ASHRAE 6 Damon Rd 1791 Tullie Circle, N.E. Medford, MA 02155-2903 Atlanta, GA 30329 617-957-2567 404-636-8400 dcarbone@stebbinsduffy.com ckettering@ashrae.org **RVC Chapter Technology Transfer Director of Communications and Publications** Steven L Rosen Jodi Scott EYP ASHRAE 24 School St. 1791 Tullie Circle, N.E. Atlanta, GA 30329 Boston, MA 02108-5113 617-305-9865 404-636-8400 dunlop@ashrae.org srosen@eypae.com

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ASHRAE Region I Roster 2011-12 Executive Committee (continued)

Regional Representative Garry N Myers WSP Flack + Kurtz 73 Bonnie Way Allendale, NJ 07401-1127 212-951-2815

Garry.Myers@wspfk.com

Regional Young Engineers in ASHRAE Cara S Martin Novus Engineering 25 Delaware Ave Delmar, NY 12054 518-439-8235 cmartin@novusengineering.com

ASHRAE, AHR Expo Return to Chicago for 2012 Winter Conference

Registration is open for ASHRAE's 2012 Winter Conference in Chicago where attendees have the chance to discuss and examine the latest topics in the building industry, such as high performing buildings and integrated design, as well as participate in technical tours; attend ASHRAE Learning Institute courses; earn professional credits; and obtain ASHRAE certifications. The 2012 Winter Conference takes place Jan. 21-25 at the Palmer House Hilton. The International Air-Conditioning, Heating, Refrigerating Expo®, held in conjunction with the Winter Conference, will run Jan. 23-25. The Expo, www.ahrexpo.com, is held at the McCormick Place. In keeping with ASHRAE's goal of continuing education the Conference offers over 200 Professional Development Hours, as well as Continuing Education Units, which can be applied toward a Professional Engineering license.

The technical program features more than 90 programs and 300 speakers addressing energy modeling applications; integrated design; healthcare, laboratories and data center applications, among others; operations and maintenance; high performance buildings; as well as refrigeration and systems and equipment sessions. Additionally, there is a new "mini-conference" on Installation, Operation & Maintenance of HVAC Systems built within the Technical Program. The O&M mini-conference is scheduled on Jan. 22-23. The full Technical Program, which will be announced later this month, offers the opportunity to earn a year's worth of PDHs, NY PDHs, AIA LUs and LEED AP credits.

The Chicago Virtual Conference is included with a paid Conference registration—comp and single day registration excluded—and includes on-demand access to all speakers' audio presentations synced to their presentations. Attendees and speakers can post comments on the presentations for a two-week period. Those not attending the Chicago Winter Conference in person may register for the Virtual Conference only. Register at www.ashrae.org/ chicagovirtual.

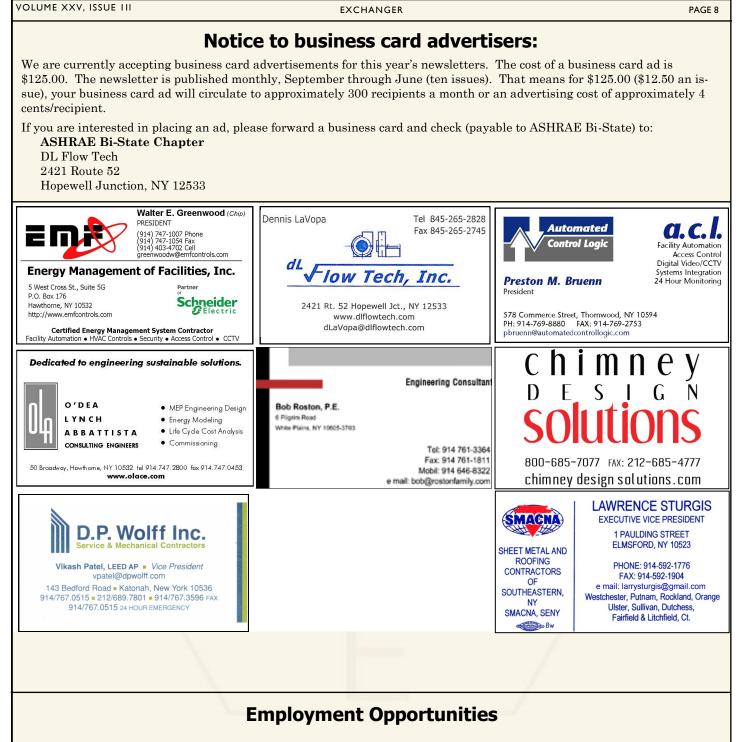
Five Professional Development Seminars and 15 Short Courses are offered to help industry professionals stay current on HVAC technology, including how to apply the newest ASHRAE standards. The ASHRAE Learning Institute (ALI) is offering a new half-day short course on the basics of combined heating and power systems, as well as updates to the full-day professional development seminars focusing on Standards 62.1, Ventilation for Acceptable Indoor Air Quality, and 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings. ALI courses are approved for renewal of professional engineer and professional architect licenses, as well as for industry certification programs.

Additionally, ASHRAE offers a special administration of all six certification examinations on Jan. 25: Building Energy Assessment Professional (BEAP), Building Energy Modeling Professional (BEMP), Commissioning Process Management Professional (CPMP), High-Performance Building Design Professional (HBDP), Healthcare Facility Design Professional (HFDP) and Operations & Performance Management Professional (OPMP). ASHRAE's certification program recognizes industry professionals who have mastered knowledge and skills reflecting best practices in certain aspects of building design and operations. More information on each certification can be found at www.ashrae.org/chicagoexams.

ASHRAE Conference technical tours give you a first-hand look at technology developed by members to further the industry. Tours include the North Central College Residential and Recreation Center, Loyola University Information Commons, the University of Chicago Mansueto Library and Rush University Medical Center Central Energy Plant.

The Winter Conference also includes a program designed for students of the Society. Highlights of the program, held on Sunday, Jan. 22, include speakers, a professional development session and presentations by the recipients of the Student Design Competition and a technical tour of the University of Chicago library. To register and for complete Conference information, visit www.ashrae.org/chicago.

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

1. \$100.000 from companies placing ad for one (1) month.

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The American Society of Heating, Refrigerating and Air-Conditioning Engineers advances the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world. Membership is open to any person associated with the field including indoor air quality, building design and operation, and environmental control for food processing and industry.



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
November	11/9/2011	Sustainability	NYSERDA Programs	Utility Bill Analysis
December	12/14/2011	Sustainability		
January	1/11/2012	Student Activities	Wireless Controls	
February	2/8/2012	Research Promotion		
March	3/14/2012	Membership Promotion		X
April	4/11/2012	Sustainability		
May	5/9/2012	Student Activities	A	
June	6/13/2012	Student Scholarships	Golf Outing	

NASA Partners with DOE to Construct 'Greenest' Federal Building

NASA's Ames Research Center and the Department of Energy (DOE), at the Lawrence Berkeley National Laboratory, Berkeley, California are collaborating on technologies and processes for what may be the "greenest," highest-performing building in the federal government.

Originally developed for aerospace applications, NASA intelligent system software will be installed in the new building, called Sustainability Base, by Ames engineers. These NASA-developed control and Integrated Systems Health Management (ISHM) technologies will be an integral part of the building. To help integrate these "smart system" technologies, the Building Technologies Department at Berkeley Lab developed a Building Information Model (BIM) to serve as the repository for the building's systems information during its life cycle. Using data from the BIM, Berkeley Lab developed an energy-performance simulation model to optimize the building's energy operations.

When considering the design of this new office building, Ames used the analogy of it being "the first lunar outpost on Earth." It was even named "Sustainability Base," in honor of Apollo 11's lunar landing site Tranquility Base. Designed as a "closed-loop," sustainable building, it not only uses repurposed NASA technologies to conserve energy and reduce water consumption, but it also uses regional natural resources, such as natural lighting and the captured, cooler temperatures of the night air.

For more information about Sustainability Base, please visit: http://www.nasa.gov/centers/ames/greenspace/sustainability-base.html

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