



**Volume 41, No. 4**  
**December 2005**

# Quaker City CLIMATE

JOURNAL OF THE PHILADELPHIA CHAPTER OF THE AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS, INC.

## PHILADELPHIA CHAPTER

**“Control of Heat, Air and Moisture  
Through the Exterior Enclosure”**

presented by

**David Altenhofen, AIA, CSI, CCS**  
*Kling*

**December 8, 2005**

**BREAKFAST MEETING**

**JOINT Meeting with AIA**

**ASHRAE Donor Recognition**

**9:00 AM to 11:00 AM**

**Lincoln Hall  
Union League  
Philadelphia, PA**

**1.5 AIA Learning Credits  
will be awarded to all  
Architects in attendance.**

**Seasons Greetings!**



### **STRENGTHEN OUR MEMBERSHIP!**

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Ask for a Membership Application at  
our Events' Reception Table

Pass it along to a Friend  
or Colleague!

### **LOCATION**

Union League  
Lincoln Hall  
140 South Broad Street  
Philadelphia, PA 19102  
215-563-6500

Go to [www.unionleague.org](http://www.unionleague.org)  
for info on parking and directions.

### **FOR RESERVATIONS**

Call (610) 971-2169  
Or Email

[hope@multiservicemgmt.com](mailto:hope@multiservicemgmt.com)

### **RESERVATION NOTICE**

Reservations must be made by  
no later than 12:00 Noon  
2 days prior to the meeting date.

### **COSTS**

\$20 for all attendees  
(Members and Non-Members)

Reservations not cancelled by 12:00 noon  
2 days prior to the meeting date will be  
billed the full amount.

The Chapter will no longer  
bear the cost of “no-show” meals.

**Speaker Bio**

David W. Altenhofen, AIA, CSI, CCS

David Altenhofen is a principal and Director of Architectural Technology for Kling, a 400 person A/E/I firm practicing nationally and internationally from six offices. His responsibilities include oversight and quality assurance for all aspects of architectural practice including the design, detailing and administration of the construction of over 500 million dollars worth of construction each year. He has extensive experience with masonry, windows, glazing, aluminum curtainwalls, skylights, metal panel systems, precast concrete, roofing, waterproofing, building science, sustainability and forensics. Rounding out his experience, Mr. Altenhofen has been a developer, a licensed general contractor and has built or remodeled 4 of his own homes.

Mr. Altenhofen is active in the architectural community at several levels, focusing primarily on reinforcing the architect's role in building science and tectonic integrated design. He is past Chair of the national PIA Committee on Building Science and continues on the committee as an active emeritus member. While chair, Mr. Altenhofen helped form the Building Enclosure Council initiative which is starting local multi-disciplinary groups across the country to promote knowledge and discussion regarding the science and art of constructing building skins. As a result, he serves as the National AIA Special Project Representative to NIBS/AIA Building Enclosure Council Steering Committee. At the Philadelphia AIA Chapter, he formed the local BEC and continues to be active in it's programming. Mr. Altenhofen is also a member of the National AIA Editorial Board for the upcoming 11<sup>th</sup> Edition of Architectural Graphic Standards and is Editor for the chapter on superstructure and enclosure. Mr. Altenhofen also serves on the Board of Directors for the Building Energy and Thermal Envelope Council of the National Institute of Building Science and on the NIBS/ASHRAE/AIA Committee on Commissioning of the Exterior Envelope. He has lectured widely including at national AIA conventions and has published many articles. He has been a guest critic at Drexel University and instructs at Philadelphia University.

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**Presentation Summary****Control of Heat, Air and Moisture  
Through the Exterior Enclosure**

The enclosure of a building may need to meet a great many performance requirements, ranging from typical structural resistance to blast and biological attack. Virtually all enclosures must mediate between an interior and an exterior environment, which can be summed up as controlling the movement of heat, air and moisture in liquid and vapor state through the assemblies. The level of control will influence not only the basic habitability of the building but will also greatly influence the energy usage and the long-term durability. The presentation will focus on some underlying principles of physics and science to understand the movement of heat, air and moisture (HAM); look into problems resulting from improper control; describe relative strengths and weaknesses of generic assembly types in controlling HAM, discuss the proper placement and performance of air barriers and vapor barriers; investigate the impact of improved control of HAM on mechanical and electrical system design; and the influence on sustainability and green design. Finally, as the enclosure is almost always the most significant architectural statement about a building, some examples of prominent buildings that use the control of HAM as a starting point for architectural expression will be shown.

**1.5 AIA learning credits will be awarded  
to all Architects in attendance.**

**ASHRAE Donor Recognition Awards**

The Philadelphia Chapter of ASHRAE would like to thank all those who participated by making a donation to the 2004-2005 research promotion fundraising campaign. Donor recognition awards will be presented during the breakfast portion of the meeting on December 8, before the presentation. Anyone wishing to receive their award is welcome to attend the meeting.

On behalf of ASHRAE, we thank you for your donations and continued support. Donations may be made to the 2005-2006 research promotion fundraising campaign using the form on page 9. Please contact Bill Hart at 215-592-1900 or bhart@phyinc.com if you have any questions or concerns.

*An investment in research is an investment  
in our industry's future.*

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## ASHRAE Volunteers are Needed

Can you spare a few minutes a month to help on one of the following committees for the Philadelphia Chapter?

Membership Promotion Committee  
Program Committee  
Research Promotion Committee  
Refrigeration Committee  
Technical, Energy & Government Activities Committee  
Student Activities Committee

Please send an email to our Volunteer Chairman, Bob Carpenter, at [bob@cowardenvironmental.com](mailto:bob@cowardenvironmental.com) to identify your interests to participate.

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## We Need Your Email Address!

*The Quaker City Climate*, the monthly newsletter of the Philadelphia Chapter of ASHRAE which is published September through May, is now distributed only by email, unless a Chapter member contacts our office and specifically asks that they continue to receive a hard copy by mail.

This is a cost savings for the Chapter and eliminates lost time due to mail delays. This is also useful to distribute meeting reminders and urgent information in a timely manner.

Don't miss the latest information on meeting dates, locations, and speakers, as well as other news of interest to engineers in the Philadelphia area!

Please email us at [hope@multiservicemgmt.com](mailto:hope@multiservicemgmt.com) to be added to our email distribution list, if you are not included already.

*We will keep your email address confidential!*

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## 05-06 Directories Have Arrived!

The 2005-2006 Directory of Consulting Firms and Manufacturers' Representatives in the Philadelphia Area is now available for \$20 each. To order your copy, send your check, payable to "Philadelphia Chapter ASHRAE", to:

994 Old Eagle School Road, Suite 1019,  
Wayne, PA 19087-1866.

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## Technology Awards Program – Have Your Work Recognized!

ASHRAE has an annual technology awards program that recognizes advances in the application of HVAC+R technology. Philadelphia has not had many entries in recent years, and I would like your support in changing that. These awards are a great way to gain recognition for your innovative designs.

Submission at the Chapter and Region level requires completion of a short application along with brief supporting documentation. One entry in each category will be selected as a chapter winner. Those entries will then be sent on for judging in the regional competition.

Applications and background information on the program can be found on the ASHRAE website (<http://www.ashrae.org/template/AssetDetail/assetid/25424>). The information is under the "Technology Awards Program" heading near the bottom of that web page.

All entries should be mailed to John Pardekooper no later than March 1, 2006 at Siemens Building Technologies, 1450 Union Meeting Road, Blue Bell PA 19422. Please contact John at [john.pardekooper@siemens.com](mailto:john.pardekooper@siemens.com) or by phone at 215-654-8040 if you have questions about this program.

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## Student Activities – Upcoming Events

Over the next couple months, the Student Activities Committee will be attending local colleges to promote ASHRAE. Some of the colleges include Drexel, Temple, Widener, and Delaware Valley Community College. We are also looking to set up visits to local grade schools and or high schools. If you have any interest in presenting or getting involved, please contact me at [mwitkowski@mchugheng.com](mailto:mwitkowski@mchugheng.com).

We are also getting ready for another year supporting the Future City Competition. ASHRAE has been supporting the competition over the past several years. (Please refer to the article on page 9.) On a personal note, I was a judge last year and was thoroughly impressed with the creativity of the students. Each school had a unique way to tackle the problems. I encourage you to support this competition.

*Mike Witkowski, Student Activities Committee Chair*

## PHILADELPHIA CHAPTER ASHRAE 2005 - 2006 PROGRAMS

*For reservations and updates, check [www.ashrae-phila.org](http://www.ashrae-phila.org).*

Date	Location	Pre-Dinner Topic	Dinner Topic	Theme
Thursday Dec 8	Union League	BREAKFAST	Controlling Heat, Air and Moisture Through the Building Envelope	AIA Joint Meeting  Donor Recognition
Thurs Jan 12	Colleen's	IAQ and Productivity	Integrated Design	LEED (Joint Meeting with DVGBC)
Thursday Feb 9	Colleen's	Career Demographics for the Engineering Industry	Ductless Air Distribution	Student Night (Joint Meeting with SMCA)
Thursday Mar 9	Cescaphe	Table Top Vendor Show	Owner Presentation - Energy Conservation in the Pharmaceutical Industry	GPBPA
Thursday April 6	Colleen's	Standard 62 Compliance IAQ Method	ASHRAE Standards	Past President's Night
Thursday May 11	Colleen's	Humidity Control	IBC Seismic Requirements	ASHRAE Scholarship Night
(date TBD) May 2006	Princeton University Campus	Centralized Thermal Energy Storage	Tour of New TES Plant	Field Trip
(date TBD) June 2006	Temple University Campus	Program Planning Meeting for 2006-2007		

Check  
[www.ashrae-phila.org](http://www.ashrae-phila.org)  
for further information  
on the  
Philadelphia Chapter!

Check the Calendar at  
[www.gpbpa.org](http://www.gpbpa.org)  
for further information  
on events for DVGBC, ASPE, SMCA,  
and other organizations!

## Career Opportunities

Looking for an experienced energy engineer with project development experience to join the Philadelphia office of a leading building technology solutions provider. World class organization with world class benefits and opportunities.

Position requires a Bachelor's degree in engineering or other related field. Master's degree preferred. Four to ten years engineering experience with energy emphasis. Background developing or supporting performance based projects and/or energy services preferred. Certified Energy Manager (CEM), PE, or Engineer-in-Training desired. Strong verbal and written communication skills required.

If you are interested in applying for this position, please contact Susan Francq at 847-941-6403 or [susan.francq@siemens.com](mailto:susan.francq@siemens.com).

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A great position in the Malvern area is now open! Qualified candidates will have experience repairing and maintaining machinery and mechanical equipment such as engine motors, conveyor systems, production machines, and warehouse equipment.

Candidates with refrigeration experience are highly encouraged to apply. Qualified candidates with 2 + years of industrial refrigeration experience, ammonia experience, or a high qualified and skilled mechanic are encouraged to apply. Candidates with RETA certification may be awarded a higher salary!!!

Please send resume via email, feel free to call with questions.

Michael Dorneman  
Aerotek Commercial  
Phone: 610-992-4643  
Toll Free: 800-964-1586  
Fax: 610-337-7747  
[mdornema@aerotek.com](mailto:mdornema@aerotek.com)

### FACULTY POSITION IN ARCHITECTURAL ENGINEERING - DREXEL UNIVERSITY

The Department of Civil, Architectural and Environmental Engineering (CAEE) of Drexel University seeks candidates for a **tenure track faculty position in Architectural Engineering**. The position will begin in September 2006.

The position is for a "generalist" with broad experience related to design and analysis of building systems. Specific research interests may include: **Intelligent Buildings; Building Envelope; Building System Integration; Design Methods; Sustainable Design.**

Position responsibilities include both undergraduate and graduate teaching as well as developing and maintaining a funded research program and supervising graduate students. Candidates should have a terminal degree in engineering, architecture, computer science or a related field, and a record of contributions to the building technology field. Industry experience is desirable, but not required. Rank and salary are dependent upon qualifications and experience.

Drexel is a private, urban, equal opportunity university offering undergraduate and graduate degrees offered in all major Engineering fields. The CAEE department has 600 undergraduates, 60 graduate students and 18 full-time faculty.

Application review will begin immediately and will continue until the position is filled. Applicants should forward resumes; names, addresses and telephone numbers of at least three professional references and a statement of interests to:

*Prof. James E. Mitchell, Chair - AE Search Committee  
Dept. of Civil, Architectural and  
Environmental Engineering  
Drexel University  
32nd and Chestnut Streets  
Philadelphia, PA, 19104  
(215) 895-1374 - (fax: 215-895-1363)  
EMail: [James.Mitchell@drexel.edu](mailto:James.Mitchell@drexel.edu)*



## ASHRAE Launches Engineering for Sustainability Effort

The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) has launched a new campaign emphasizing its role as “the engineering engine that drives sustainability.”

As part of ASHRAE’s stronger focus on its involvement in green buildings, the Society has introduced a new logo, theme, Engineering for Sustainability, and website, [www.engineeringforsustainability.org](http://www.engineeringforsustainability.org). These will be used to identify ASHRAE products and services related to sustainability.

“ASHRAE has long provided ‘engineering for sustainability’ by applying its diverse technology assets to the sustainability movement in energy efficiency, indoor environment and industrial processes,” Ron Jarnagin, chair of a committee developing a roadmap for sustainability for the Society, said. “With growing focus in the industry on

the green movement, we need to emphasize that ASHRAE is the engineering engine that drives sustainability.”

Jarnagin noted that the Society’s recent efforts include publishing and working on the Advanced Energy Design Guide series, Standard 90.1, which contains a section guiding designers on how to meet requirements for building rating programs, and the ASHRAE GreenGuide, all part of an ASHRAE green “toolkit.”

Sustainability also is addressed through other standards and special publications, ASHRAE Journal articles, ASHRAE Learning Institute courses and in the ASHRAE Handbook. Opportunities for involvement in shaping ASHRAE’s sustainability future include technical committees and local chapters.



## ASHRAE Energy Design Guide Earns Award from Green Building Council

A guide written to make sustainable design easier has earned a leadership award from the U.S. Green Building Council (USGBC). The Advanced Energy Design Guide for Small Office Buildings is a recipient of a USGBC 2005 Leadership Award, which recognizes outstanding individuals and organizations that signify vision, leadership and commitment to the evolution of green building design and construction.

The guide received the Research Award for being “a significant contribution helping to advance green building.” The guide was developed by a committee representing a diverse group of energy professionals drawn from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), the American Institute of Architects (AIA), the New Buildings Institute (NBI), the Illuminating Engineering Society of North America (IESNA) and the Department of Energy (DOE).

“The Advanced Energy Design Guide developed by ASHRAE and its partner organizations is another tool in the ‘green’ toolkit, which users need to build a sustainable future,” ASHRAE president Lee Burgett, P.E., said. “We thank the USGBC for recognizing our efforts.”

“The U.S. Green Building Council’s Leadership Awards are presented for leadership in promoting green building design and construction,” Rick Fedrizzi, president, CEO

and founding chair, USGBC, said. “The Advanced Energy Design Guide for Small Office Buildings is a seminal resource for the green building industry, and is highly deserving of this prestigious award.”

The award is the second for the book, which earlier this year was recognized by the Alliance to Save Energy as part of its annual Stars of Energy Efficiency Awards program. The Alliance recognized ASHRAE for its “exemplary illustration of and commitment to energy-efficient policy and practice.”

The guide provides a sensible, hands-on approach to design through use of products that are practical and commercially available as “off-the-shelf” technology from major manufacturers.

ASHRAE, AIA, IESNA and the U.S. Green Building Council are currently developing the second guide in the series, which will focus on small retail/mercantile spaces.

The cost of the Advanced Energy Design Guide for Small Office Buildings is \$59 (\$47, ASHRAE member). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), at 1791 Tullie Circle NE, Atlanta, GA 30329, or visit the ASHRAE.org Bookstore at [www.ashrae.org](http://www.ashrae.org).

## Sustainability Topic of ASHRAE Satellite Broadcast

A satellite broadcast is being offered by ASHRAE to fulfill its goal of promoting building sustainability as a means to provide a safe, healthy, comfortable environment while simultaneously limiting the impact on the Earth's natural resources.

Information about building sustainability principles, practices and emerging concepts will be presented in the free April 19, 2006, satellite broadcast and Webcast, Sustainability and the Building Environment. The program is sponsored by ASHRAE's Chapter Technology Transfer Committee (CTTC).

"This broadcast will benefit all of the team members involved in the design, construction, start-up, and operation phases of a facility," said Jon Christopher Larry, chair of CTTC. "Viewers will be given information and sources to assist them when they are faced with the situation where a green design must be done. The green building industry will also benefit from the engineering input from ASHRAE."

The speakers for the broadcast will provide guidance on how to practice green building design. They are: Joe Van Bellegem, president, BuildGreen Developments, Victoria, Canada; Hal Levin, Fellow ASHRAE, research architect, Building Ecology Research Group, Santa Cruz, Calif.; Jean Lupinacci, director, ENERGY STAR commercial and industrial branch, ClimateProtection Partnerships Division, U.S.Environmental Protection Agency; Kevin Hydes, P.E., P.Eng., president and CEO, Keen Engineering, Montreal, Canada; and Malcolm Lewis, Ph.D., P.E., president, CTG Energetics, Irvine, Calif.

The broadcast will be similar to the April 2005 Mold in the Building Environment Broadcast/Webcast viewed by some 16,000 viewers at 1,700 locations.

Visit [www.ashrae.org/greenbuildingsbroadcast](http://www.ashrae.org/greenbuildingsbroadcast) for the latest information regarding the broadcast/Webcast and ASHRAE's work on sustainability.

## Chicago Site of ASHRAE 2006 Winter Meeting

ASHRAE will hold its 2006 Winter Meeting in Chicago.

The meeting will take place Jan. 21-25, 2006, with the ASHRAE Headquarter Hotel at the Palmer House Hilton. The meeting will be held in conjunction with the International Air-Conditioning, Heating, Refrigerating Exposition (AHR Expo), Jan. 23-25, McCormick Place, Chicago.

Those interested in attending the ASHRAE meeting should contact the ASHRAE meetings section at 404-636-8400. Advance registration for the 2006 ASHRAE Winter Meeting will be \$635 (\$375, ASHRAE members).

For more information about the 2006 Winter Meeting, visit [www.ashrae.org/chicago](http://www.ashrae.org/chicago). For more information about the AHR Expo, visit [www.ahrexpo.com](http://www.ahrexpo.com).

## ASHRAE IAQ 2007 Examines Healthy, Sustainable Buildings

Healthy, sustainable buildings are those that create high quality indoor environments while minimizing their impacts on the outdoor environment. But achieving both can be a challenging goal.

Guidance on how to do so will be presented at the American Society of Heating, Refrigerating and Air-Conditioning Engineers' (ASHRAE) conference, IAQ 2007 Healthy and Sustainable Buildings, which will be held Oct. 15-17, 2007, at Baltimore's Inner Harbor, Baltimore, Maryland.

"The issues of healthy and sustainable buildings are cyclical and interdependent," Lawrence J. Schoen, P.E., chair of the conference said. "Buildings not only impact the indoor environment but they have an impact on the outside environment. Our goal in creating healthy buildings should be to create indoor environments where people are healthy and productive but that minimize impact on the environment."

The conference will emphasize the measured performance of healthy and sustainable buildings and practical methods for their design, construction, operation and maintenance, according to Schoen.

For more information, contact ASHRAE Technical Services at [IAQ2007@ashrae.org](mailto:IAQ2007@ashrae.org) or [www.iaq2007.org](http://www.iaq2007.org).

## Future City Gears Up for 2005-2006

The Philadelphia Regional Future City Competition, an education outreach program of the Delaware Valley Engineers Week Council, is actively seeking volunteers for this year's program. Although the Regional Competition will not be held until January, the Future City Steering Committee has been registering schools since May.

In August, even before the school year began, there were 12 schools registered and since the beginning of the school year, more schools have been starting the program. The program offers 7<sup>th</sup> and 8<sup>th</sup> grade students the opportunity to work with their teacher and a practicing engineer mentor to:

- Design a city of the Future using SimCity 3000
- Write a researched engineering essay of 500 – 700 words and a 100 – 300 word abstract describing their city development
- Build a 30" x 60" model of a portion of their city
- Prepare a 7 minute presentation

The schools will come together at the regional competition at Villanova University on January 28, 2006 to present their cities to teams of judges. The winning team will represent the Philadelphia region at the national competition in February. In addition, there are over 40 other prizes awarded at the regional competition.

In order to run the program, Future City needs almost 200 volunteers to be:

- Mentors – needed **NOW!**
- City Design Judges – needed in December
- Essay Judges – needed in late December – early January.
- Preliminary Judges, Special Award Evaluators and competition workers – needed in late January

Why not volunteer for this exciting program? It will give you an opportunity to share your engineering expertise with middle school students and you will have a lot of fun. Sign up on-line at [www.futurecityphilly.org](http://www.futurecityphilly.org), or call or e-mail Jennifer Wetzel, the Volunteer Coordinator, at 215-573-3935 or [volunteer@futurecityphilly.org](mailto:volunteer@futurecityphilly.org).

## The Greater Philadelphia Building Professionals Association

**Our Vision** The focus of this organization is to improve the communications among the technical associations and ensure that the buildings and the internal environments in the greater Philadelphia area are designed, constructed, and maintained in a safer, more efficient, and sustainable manner. The association provides a free web site, [www.GPBPA.org](http://www.GPBPA.org). This web site includes a calendar of future seminars, meetings, training, and special events provided by member associations.

**Our Mission** The Greater Philadelphia Building Professionals Association is a collaboration of professional societies that are dedicated to sharing information regarding the work centers of the building environment. It was established to facilitate the sharing of professional expertise among the associations with the intent of cross-education of members concerning the many disciplines involved in building design, construction, operation, and maintenance.

**History** The Greater Philadelphia Building Professionals Association was started in October of 2003 by the American Society of Heating Ventilating and Air Conditioning Engineers (ASHRAE). They felt it was important to bring the architectural, design, and construction associations together in a forum where they could share new technical information and improve the coordination among the related associations. The association quickly grew and now includes:

[AEE](#) Greater Philadelphia Chapter of the Association of Energy Engineers, [AIA](#) American Institute of Architects, [ASCET](#) American Society of Certified Engineering Technicians, [ASHRAE](#) American Society of Heating, Refrigerating and Air-Conditioning Engineers, [ASPE](#) American Society of Plumbing Engineers, [ASPE-Est](#) American Society of Professional Estimators, [CMAA](#) Construction Management Association of America, [DVGBC](#) Delaware Valley Green Building Council, [ECOP](#) Engineers Club of Philadelphia, [GBCA](#) General Building Contractors Association, [IESNA](#) Illuminating Engineering Society of North America, [SFPE](#) Society of Fire Protection Engineers, [SJMCA](#) South Jersey Mechanical Contractors Association, [SMCA](#) Sheet Metal Contractors Association.

If you feel your association would like to join the Greater Philadelphia Building Professionals Association, please contact Jay Halsey at 610-251-9088 or E mail [JayHalsey001@aol.com](mailto:JayHalsey001@aol.com).



Please help the ASHRAE Research 2005-2006 Fund Drive by filling out this Donor Form and sending it to national headquarters in Atlanta this week. Have you asked your company if they have a matching gift program? Remember every dollar you donate to this worthy cause is doubled by ASHRAE Society! If you have any questions, please contact Steve Ridenour, Research Program Chairman, at [steven.ridenour@temple.edu](mailto:steven.ridenour@temple.edu).

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## **ASHRAE RESEARCH - Donor Form Philadelphia Chapter 21 - Region 3**

### **1) Type of Contribution;**

☐ Individual

☐ Corporate

☐ Memorial To: \_\_\_\_\_

Please attach the details for the acknowledgement to, relationship to, and addresses.

### **2) Level of Contribution;**

☐ Golden Circle (\$10,000 and greater)

☐ Research Partner (\$5,000-\$9,999)

☐ Research Associate (\$2,500-\$4,999)

☐ Research Major Donor (\$250-\$2,499)

☐ Research Honor Roll Donor - Individual (\$100-\$249)

☐ Research Honor Roll Donor – Corporate (\$150-\$249)

☐ Research General Donor (Less than \$100 Individual/\$150 Corp.)

### **3) Method of Payment;**

A) Attach Check (Payable to “ASHRAE Research”)

Please note on check “Phila- Chapter 21”

B) Credit Card

☐ O-Visa      ☐ O-Master Card      ☐ O-AMEX

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

Card #: \_\_\_\_\_ Exp. Date: \_\_\_\_\_

*Note: All contributions are fully deductible under section 170 of the IRS code.*

### **4) Donor Information:**

Name: \_\_\_\_\_

Member # (If ASHRAE member): \_\_\_\_\_

Corporation Name (If Corp. Donation): \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone : Home: \_\_\_\_\_ Business: \_\_\_\_\_

E-Mail: \_\_\_\_\_

**5) Send this completed form to: ASHRAE RESEARCH, 1791 Tullie Circle, NE, Atlanta, GA 30329**

**!! NEW !!****AFFILIATE MEMBERSHIP GRADE**

For an Annual Dues of \$40, Applicants under Age 30 can Join ASHRAE at this introductory membership level. Membership tenure in this grade is limited to three (3) years.

Affiliate Members Benefits Affiliate Members receive monthly issues of the ASHRAE Journal and Insights Newsletter. The annual handbook is not a benefit of this grade.

**Qualifications**

An Affiliate Member shall have the same qualifications as an Associate Member. They are:

1. Experience in technical matters or in design, operation, or maintenance in heating, refrigerating, air conditioning, or ventilating fields.
2. An interest in the in the advancement of the Society's aims.
3. Possess sufficient qualifications to cooperate with heating, refrigerating, air conditioning, or ventilating engineers in the advancement of relating to heating, refrigerating, air conditioning, or ventilating engineering and its application.

**Limitations**

- You do not receive ASHRAE Handbook with membership. You do not receive *ASHRAE Insights*. You get a one-time discount (20% off) on all Handbook items.
- You can serve on Chapter committees, but cannot hold office or vote at Chapter, Regional or Society level.

**Contact For Receiving Application**

Go to [www.ashrae.org](http://www.ashrae.org) and click on "Join" in the upper right corner. This will take you to a page describing each membership grade, its benefits and qualifications, and a link to membership application forms.

**MEMBERSHIP ADVANCEMENT!**

Any Associate Member meeting the following requirement can apply for Advancement to the more entitling Member grade. By ASHRAE society definition:

*A member shall have the equivalent of twelve society-approved years of experience* composed of an approved combination of: (a) completed education beyond high school, (b) work experience, and (c) professional engineering or related registration or license issued by a legally authorized body.

All technical and scientific education shall be based on curricula approved by the Board of Directors.

Approved engineering curricula shall be equivalent to the accredited by the Accreditation Board of Engineering and Technology in the United States of America or the Canadian Engineering Accreditation Board. Scientific education in fields other than engineering shall be from a college or university course of study that has been accredited by an organization charged with monitoring standards of performance. *Society approved years of experience shall be credited as follows:*

One and one-half years of credit for each year of completed education for graduates of approved technical curricula. One year of credit for each year of education for non-graduates who have completed a least two years of approved technical curricula. One year of credit for each year of completed education for graduates of colleges or universities which do not have accreditations. Those holding associated degrees from technical institutions shall also be credited for one year for each year of education.

One year for each year of qualifying work experiences in the performance of duties in work related to ASHRAE fields of interest and shall have included research, teaching, design, contracting, engineering sales or engineering management.

Three years of credit for professional registration of license issued by a legally authorized body in engineering or related fields, the requirements of which as to education, examination, and active practice are satisfactory to the Board of Directors.

More information is available on the ASHRAE website ([www.ASHRAE.org](http://www.ASHRAE.org)) under menu items Membership Resources...Manage Your Membership, the above definition is extracted from such application information in PDF file format. The application can also be filled interactively online. ASHRAE sends members who upgrade a \$20 gift certificate usable at the ASHRAE bookstore or towards ASHRAE membership renewal.

## Member Services

Members who would like stay on top of the latest news from ASHRAE may join the News Release List Serve at <http://www.ashrae.org/template/AboutLinkLanding/category/1584>.

If you or your company are hiring, please take a moment to review the resumé of chapter members and students which have been posted on the chapter website at [www.ashrae-phila.org/resumes.html](http://www.ashrae-phila.org/resumes.html).

Any member who wishes to have their resumé posted on our website, or who would like to update it, can email our webmaster, Seth Weiss, at [sweiss@comcast.net](mailto:sweiss@comcast.net). The file must be in pdf format and will be posted for 3 months.

For Video Resume And Job Opportunities, visit online portal: [www.LookFirst.net](http://www.LookFirst.net)

Looking for work, see job posted at STEP, Inc.  
S.T.E.P., Inc.  
100 Highpoint Drive  
Suite 104  
Chalfont, PA 18914  
P: 1.215.996.1255  
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Material can include letters to the editor,  
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