



# Capitalaire

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The National Capital Chapter of the American Society of Heating, Refrigerating, and Air Conditioning Engineers

## President's Corner

*"We have modified our environment so radically that we must now modify ourselves to exist in this new environment"*

—Norbert Wiener

Happy New Year to all! It is hard to believe the first half of the ASHRAE year has already passed. I hope that it was a safe and happy Holiday season, and that everyone had the opportunity to visit friends and family. It is also a good time to reflect on the past year and look forward to the New Year.

Our December meeting was well attended. We were honored to have many of our past presidents join us. We had a good opportunity to take a commemorative photograph with them. We also announced to the Chapter the passing of one our past presidents, Mr. Clinton W. Philips. Mr. Philips was president of the chapter between 1970 and 1971. He was attending chapter meetings until recently. We will miss him.

I also had the pleasure of presenting to Kinga Porst her president's pin for her tenure as president during the 2009-2010 year. Her leadership encouraged a lot of young engineers to be involved in ASHRAE.

Mark R. Ames, Manager of Government Affairs for the ASHRAE, our dinner guest speaker shared information concerning the National Energy Policy updates. We were honored to have Dr. William Bahnfleth, an ASHRAE Distinguished Lecturer, Professor of Architectural Engineering

at Penn State, and ASHRAE Vice President, as our PES speaker. Dr. Bahnfleth presented a very interesting program on Boilers. It was a program that was well received and drew many questions from the attendees.

Remember the week of February 21st is Engineer's week. The National Capital Chapter ASHRAE has the opportunity to make an impact and have a positive influence on students' lives in the DC Public Schools. We are asking for 12 volunteers to visit various schools we are working with. Please contact Saunders Smith if you are interested.

May 1st is the deadline for ASHRAE Technology Awards. Please contact Omar Hawitt to find out what is involved. This is a fabulous opportunity to share your work with the rest of the industry.

Our next meeting will be held at the Hilton Arlington. The PES program will cover Air Filtration and the dinner program will be a discussion concerning Liquid Desiccant Air Conditioning. Mr. Trevor Wende, Vice President of Marketing for Advantix Systems, will be our dinner guest speaker. Chris Muller, Technical Director with Purafil, Inc., and Al Veeck, Executive Director of the National Air Filtration Association, will both join us for the PES presentation.

We have a very interesting second half of the year planned. Please look over the schedule on the website and remember to RSVP online.

Best Regards,  
Tansu Sengezener  
NCC President 2010-2011



# PES Topic: Air Filtration

Properly applied air filtration can be some of the easiest and quickest ways to HVAC&R system sustainability and energy efficiency. This presentation will briefly describe MERV and how to best apply new medias in air filtration to new and existing systems in order to achieve maximum indoor air quality and system performance.

## Speaker Bio: Alan C. (Al) Veeck, CAFS, NCT II



Al Veeck is Executive Director of the National Air Filtration Association headquartered in Virginia Beach, Virginia. Al is a 1969 graduate of Butler University in Indianapolis, IN, with a degree in Business Adm. He began his

3rd career in the air filtration business in 1985 with Tidewater Air Filter as Vice President of Sales.

While with Tidewater, Al was elected President of the National Air Filtration Association (NAFA) in 1999. He also served and worked on the committee that wrote the first book on air filtration, NAFA Guide to Air Filtration, and was part of the first group of NAFA members to pass the national accreditation exam to become a NAFA Certified Air Filter Specialist (CAFS). He also worked on the committee to write the second text for NAFA entitled, Installation, Operation and Maintenance of Air Filtration Systems. In 1998, Tidewater was purchased by Flanders Precisionaire and Al served as the General Manager of the new company, called

Airpure, until his resignation in 2003. When he resigned from Airpure, NAFA was searching for someone to manage the national trade association and asked Al to take the position. With prior experience in association work, Al accepted and has been NAFA's Executive Director ever since.

Al continues to be involved in many phases of service in the HVAC industry including ASHRAE - Hampton Roads chapter, as past chair of Research Promotion and activities that support the local scholarship program. Internationally, he has served as Secretary, Vice Chair and Chair of Technical Committee 2.4, "Particulate Contaminants and Particulate Contaminant Removal Equipment." During this period, he actively worked to put forward the revised air filter testing standard, ANSI/ASHRAE Standard 52.2, chaired 3 Forums and one Seminar, had articles on air filtration published in the ASHRE Journal, and wrote a research proposal and was PMC chair for ASHRAE Research Project 1190. In 2004, Al was selected by the ASHRAE Board of Directors as a Distinguished Lecturer speaking on air filtration applications and Standard 52.2. Al served as Vice Chair of Society Program Committee (SPC) which has been changed to the Conventions Expositions Committee and continues to be a member of TC2.4.

Al received his NAFA Certified Technician (NCT) Level II accreditation in 2006 and teaches courses in biohazard containment, air filtration, sales and management.

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# PES Topic: Specialized Filtration Requirements for Museum Environments

In preservation environments there are a number of environmental factors that cause the degradation of materials and artifacts. Among these are temperature, humidity, particulates, and gaseous pollutants. Of these, gaseous pollutants are the most destructive. The control of gaseous pollutants is becoming more specialized as the “one size fits all” approach to prescribing air purification but this no longer works in many specialized applications such as preservation environments.

This presentation will provide information on air cleaning and monitoring technologies in general and, specifically, why and how they may be integrated into HVAC systems in new and existing museums and archives. Consideration of ventilation rates and air exchange rates for various use categories will be discussed with respect to their effects on the effectiveness of an overall contamination control strategy. Ongoing work as well as future trends important to air purification strategies for museums, libraries, and archives will be presented.

## Speaker Bio: Christopher O. Muller



Chris Muller is the Technical Director and Global Mission Critical Technology Manager at Purafil, Inc. (Doraville, Georgia USA) and is responsible for technical support services and various research

and development functions. Prior to joining Purafil, he worked in the chemical process and pharmaceutical manufacturing industries in plant management and quality assurance/quality control.

He has written and spoken extensively on the subject of environmental air quality and the application and use of gas-phase air filtration and counts over 120 articles and peer-reviewed papers, more than 50 seminars, and 7 handbooks to his credit. Has edited chapters in two handbooks on the application and use of gas-phase air filtration, wrote the chapter on gas-phase air filtration in the NAFA Air Filtration Handbook and the chapter on airborne molecular contamination in the Semiconductor Manufacturing Handbook published by McGraw-Hill.

He testified before OSHA on a proposed Indoor Air Quality Standard and has consulted on the preparation of Dutch and Italian governmental standards for indoor environments and has worked closely with many state and national agencies in the U.S. and abroad to develop and implement indoor environmental control strategies for airborne contaminants.

He is one of only a handful of ASHRAE members named as a Distinguished Lecturer and is a frequent speaker at ASHRAE Chapter and Regional meetings both domestically and abroad. He has received ASHRAE’s Distinguished Service Award. He was a member of the International Scientific Committee for the ASHRAE IAQ Conference Malaysia 2010: Airborne Infection Control – Ventilation, IAQ & Energy.

He is Chair of ASHRAE Standard Project Committee 145P, which has published industry standards for assessing the performance of media and equipment used in gas phase air filtration systems. He is a voting member of Standing Standard Project Committee 62.1 – Ventilation for Acceptable Indoor Air Quality, serves on the Education subcommittee, and is a co-author of the Standard 62.1 User’s Manual. He is also a member of Technical Committee 2.3 – Gaseous Air Contaminants and Gas Contaminant Removal Equipment.

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# Muller Bio Continued

He serves on the Yield Enhancement Technical Working Group and the Wafer Environment Contamination Control (WEEC) subgroup for the 2011 update to the International Technology Roadmap for Semiconductors (ITRS).

Other memberships include:

- American Institute for Conservation of Historic and Artistic Works (AIC) – Research and Technical Studies specialty group.
- American Society for Testing and Materials (ASTM) – Committee D22.05 on Indoor Air and Committee D.28.04 on Activated Carbon.
- Air & Waste Management Association (A&WMA) – Indoor Air Quality Committee.
- Institute of Environmental Sciences (IEST) – Senior Member and on a member of the Senior Faculty of the IEST Contamination Control Institute. He is member of Working Groups

CC 008 (Gas Phase Adsorber Cells), CC 012 (Cleanroom Environments), and CC 035 (Design Considerations for Airborne Molecular Contamination Filtration Systems).

- International Society of Automation (ISA) – Co-chair of S71 committee on Environmental Conditions for Process Measurement and Control Systems.
- International Society of Indoor Air Quality and Climate (ISIAQ) – Task Force III on Indoor Air Quality in Museums.
- International Standards Organization (ISO) – Technical Committee 142: Working Group 8 on Gas-Phase Air Cleaning Devices for General Ventilation.

He received his B.S. in Applied Biology with a minor in Chemistry from Georgia Tech and has done postgraduate work in Industrial Engineering.

## Dinner Topic: Liquid Desiccant Air Conditioning

As much as controlling temperature can be a challenge, humidity control can be even more of a challenge. Dry air is essential for allowing the human body to cool itself and keeps the air free of bacteria and mold. In industrial processes, low humidity levels are also essential for producing quality products in clean and safe conditions. In commercial applications, improved humidity control can broaden the range of comfort levels. In this presentation, the speaker will discuss liquid desiccant technology: an alternative, efficient solution to dehumidification and cooling. He will explain how liquid desiccant effectively cools, dries and cleans the air naturally and also reduces energy consumption by over 40%. By reviewing the history of how this technology has evolved and citing numerous real life examples of applications that have benefitted from liquid desiccant, he will

present an overview of this innovative approach to dehumidification and cooling.

### Speaker Bio: Trevor Wende

Mr. Trevor Wende is the Vice President of Marketing for Advantix Systems, manufacturers of air conditioning equipment that utilizes liquid desiccant technology. Mr. Wende has a B.S. in Mechanical Engineering from UC Berkeley and a MBA from MIT's Sloan School of Management. Prior to his current role, he was at McKinsey & Company where he worked primarily in the firm's energy and sustainability practices. Mr. Wende was a leader in McKinsey's Climate Change Strategic Initiative, and worked extensively on energy technology and energy efficiency opportunities.

## **Green Tips Provide Guidance for Greening Data Centers: New ASHRAE Book**

ATLANTA – More than 50 percent of the total energy consumption of data centers can be attributed to the power and cooling infrastructure that supports the IT equipment housed in them. Guidance in a new book from ASHRAE aims to help reduce that energy use through proven, easy-to-implement tips.

“Green Tips for Data Centers” identifies techniques for optimizing energy efficiency in existing datacom facilities. Many of the techniques can be implemented through simple operational changes, upgrades or modifications that require a relatively low investment and that cause little disruption to the existing operations of the IT equipment.

“The book has particular relevance right now since there is a significant focus on energy efficiency in data centers,” Don Beaty, co-founder of ASHRAE Technical Committee (TC) 9.9, Mission Critical Facilities, Technology Spaces and Electronic Equipment, said. “While it is fun and exciting to look at how we can design new data centers to be energy efficient, the fact is that there are many, many existing datacenters in operation.”

Among the 26 tips from the book are:

- Optimize supply air temperatures
- Install monitoring equipment
- Improve lighting efficiency
- Optimize data storage
- Improve transformer efficiencies

“The tips provide insight into practical techniques that have proven successful in

other datacom facilities and give owners and operators the confidence to implement similar techniques in their own facilities,” Beaty said.

The book is part of the ASHRAE Datacom Series, developed to provide a more comprehensive treatment of datacom cooling and related subjects. Other books in the series are “Particulate and Gaseous Contamination in Datacom Environments,” “High Density Data Centers – Case Studies and Best Practices,” “Design Considerations for Datacom Equipment Centers,” “Best Practices for Datacom Facility Energy Efficiency,” “Thermal Guidelines for Data Processing Environments,” “Liquid Cooling Guidelines for Datacom Equipment Centers,” “Datacom Equipment Power Trends and Cooling Applications” and “Structural and Vibration Guidelines for Datacom Equipment Centers.”

The cost of Green Tips for Data Centers is \$54 (\$46, ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit [www.ashrae.org/datacenterefficiency](http://www.ashrae.org/datacenterefficiency). Bulk discounts are available to individuals, companies and organizations who are interested in purchasing multiple copies.

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

## **ASHRAE's 2012 Winter Conference Seeks Papers on High Performance Buildings, Integrated Design, Energy Modeling and Specialized Applications**

ATLANTA—Papers addressing advances in high performance buildings, integrated design and numerous high-intensity HVAC applications are being sought for ASHRAE's 2012 Winter Conference in Chicago, Ill., Jan. 21-25.

The Specialized Applications track focuses on high-intensity HVAC applications, such as laboratories, hospitals and data centers, and seeks papers on design recommendations, regulations and lessons learned.

The Integrated Design track addresses how the integrated building design and integrated project delivery processes are being applied to build better buildings. Papers are being sought on case studies, lessons learned and ongoing research projects studying new project delivery methods.

The Energy Modeling Applications track seeks papers that address the range of different energy modeling and Building Information Modeling tools available, their use and specific applications, including systems, building and communities. Papers that address an integrated approach from modeling through end designs are requested.

In addition, papers are sought for tracks on Operations & Maintenance, HVAC Systems, HVAC Fundamentals and Applications, Professional Skills and Refrigeration.

The deadline for paper submissions is April

18, 2011. For complete information on tracks, contacts and submittal requirements, visit [www.ashrae.org/chicago](http://www.ashrae.org/chicago).

Full-length technical papers or conference paper abstracts (400 words or less) should be submitted by April 18.

For more information about the two types of papers and how to submit a full-length technical paper or conference paper abstract, go to the ASHRAE Chicago Conference webpage: [www.ashrae.org/chicago](http://www.ashrae.org/chicago). For accepted conference paper abstracts, the completed conference papers will be due July 8, 2011.

The Conference is expected to attract some 3,000 attendees from 60 countries. The technical program takes place Sunday, Jan. 22–Wednesday, Jan. 25, and includes paper presentations as well as non-paper presentations. Approved papers are published in ASHRAE Transactions. Held in conjunction with the ASHRAE conference is the ASHRAE-cosponsored AHR Expo, Jan. 23-25.

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## **Duct Fitting Database Latest ASHRAE Resource to Become Mobile App**

ATLANTA—ASHRAE’s popular Duct Fitting Database desktop application has become even more valuable as a smart phone app, allowing engineers to make complicated calculations in the field and receive faster results.

Developed for Apple’s iPhone, iPod touch and iPad, the ASHRAE Duct Fitting Database (DFDB) app allows users to perform pressure loss calculations for more than 200 HVAC duct fittings in both I-P and SI units.

This new application ensures that engineers in the field have instant access to the most accurate information without having to return to their office to perform calculations. The mobile app features dynamic illustrations of each design, allows for easy use on the job to do quick duct pressure loss calculations and the inputs can be adjusted by touch and installation is automatic.

Other special features of the DFDB app are as follows:

- Users can create individual projects, each with unique input values and results.
- Each fitting has its own custom set of input parameters and results.
- Users can easily change the minimum and maximum allowable values for all input parameters.

- Users can display and email two types of reports, which include a spreadsheet attachment that can be opened on a desktop computer to do further analysis.

The DFDB app is the second mobile app to be released by ASHRAE. The Society published the 62.1 app in the winter of 2010.

The ASHRAE DFDB app can be purchased through Apple’s online iPhone App Store for \$19.99. This initial release of the ASHRAE DFDB app includes supply and common round fittings only, though subsequent versions including all of the remaining fittings will be released monthly. Those who purchase the app now will receive these updates as free upgrades.

This app was developed for ASHRAE by Carmel Software Corp., a firm specializing in the development of engineering and scientific mobile and tablet software applications.

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# National Capital Chapter of ASHRAE

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# National Capital Chapter of ASHRAE

## 2010-2011 Meeting Schedule



<b>Date</b>	<b>Theme</b>	<b>PES Program</b>	<b>Dinner Program</b>	<b>Location</b>
Sept. 15	YEA/ Membership	LowEx Systems	ASHRAE Building Energy Quotient	Hilton Arlington
Oct. 13	Awards/Joint Meeting with IEEE	Emergency Power Systems (Generators/ Fuel Oil Systems)	UPS	Hilton Arlington
Nov. 10	Trade Show	Engineer/Contractor Interaction	Trade Show	Bethesda Marriott
Dec. 8	Presidents/ Membership	Boilers –Dr. William Bahnfleth	National Energy Policy –Mark Ames	Hilton Arlington
Feb. 9	Students/ Refrigeration	Museum Ventilation/ Air Filtration –Chris Muller –Alan Veck	Liquid Dessicants –Trevor Wende	Hilton Arlington
Mar. 16	Sustainability/ Joint Meeting w/ USGBC	Energy Models –Dru Crawley	Integrated Project Delivery/ Integrated Form of Agreement –Bart Stasa	Hilton Arlington
April 13	Research	Commissioning Forum	Hospital Ventilation –Troy Tillman	Hilton Arlington
May TBA	Tour	TBA		TBA

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