

ASHRAE Distinguished Lecturer coming to WV

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**Upcoming Events**

**Join WVSHE AND WVASHRAE on Friday October 7th, 2016**  
**for a Luncheon Seminar Focused on Healthcare Facility IAQ**

**Topics are:**

**\*Air Distribution and Contaminant Dispersion in Hospital Operating Rooms**

**\*Natural Ventilation: Concept and Design**

**Dr. John Zhai**

**\*Legionella Risk Management in Healthcare Facilities**

**Dan Weimar**

**Location:**

**Holiday Inn & Suites**

**400 Second Ave**

**Charleston, WV 25303**

**Time: 11:00 am to 2:30 with Buffet Lunch at 12:00**

**Registration: \$40. Register here: [www.wvashrae.org](http://www.wvashrae.org)**

**Questions - Contact Samuel Butzer, P.E. - President WV ASHRAE**

**[c192@ashrae.net](mailto:c192@ashrae.net) or [stb@zmm.com](mailto:stb@zmm.com)**

**Presenter/Topics:**

Dr. John Zhai is a Professor in the Department of Civil, Environmental and Architectural Engineering (CEAE) at the University of Colorado at Boulder (UCB). He has a unique and integrated background in both Mechanical and Architectural Engineering with a Doctor degree in Fluid Mechanics (Tsinghua University) and a Ph.D. in Building Technology (MIT). Dr. Zhai has been actively engaged in research activities in the field of fluid/thermal science and building/energy/environment technology since 1994. His particular research interests and expertise include: experimental and numerical study of building thermal and environmental systems; indoor environmental quality; immune and sustainable building design and technology development. As a principal investigator, Dr. Zhai has completed over 50 projects in the areas (including 9 ASHRAE research projects and 3 ASHRAE senior design projects) and published over 130 technical papers in reputed journals and conferences. Dr. Zhai was one of the first who developed the fundamental theory and feasible implementation of integration of Computational Fluid Dynamics (CFD) with Energy Simulation (ES) and his papers are widely cited by the peers.

**Air Distribution and Contaminant Dispersion in Hospital Operating Rooms**

Effective ventilation is critical to the successful prevention of surgical site infections (SSI) in hospital operating rooms (OR). ASHRAE Standard 170 provides specific requirements for the design of hospital operating room ventilation systems, including specifications for the air change rates, supply air face velocity, room pressurization, diffuser coverage area, return grille locations, and air filtration systems. This talk reviews and

computational modeling. The talk presents the results from the field measurements of typical OR conditions and typical wound temperatures. Key findings of air and contaminant distributions in a controlled full-scale laboratory are reported, which are further compared against computational fluid dynamics (CFD) modeling results. Potential improvement solutions to the OR ventilation conditions are discussed.

#### **Natural Ventilation: Concept and Design**

Natural ventilation is a traditional cost-effective technique to cool and ventilate buildings. This talk introduces the principles of natural ventilation (NV) including cross-ventilation, single-side ventilation, wind-driven ventilation, and buoyancy-driven ventilation. Various design approaches and tools, ranging from rules-of-thumb to sophisticated computer modeling, are presented. Advanced NV design concepts (e.g., hybrid ventilation, night cooling etc.) are demonstrated, via a great number of case studies. General procedure of designing a natural ventilated building is introduced, using practical guidelines from design industry. The challenges of designing and operating a natural ventilated building are also discussed.

#### **Presenter/Topic:**

Dan Weimar is the Manager of Business Development Engineering for Chem-Aqua, a global water treatment company headquartered in Irving, Texas. Over the course of his 36 year career, his primary focus has been steam plant operations and cooling systems with a heavy emphasis in the last 20 years on water and energy conservation. Dan is a past voting member of ASHRAE's Technical Committees, TC 3.6 for Water Treatment and TC 8.6 for Cooling Towers/Evaporative Cooling as well as past Chair of the TC 3.6 Handbook Committee for Water Treatment.

#### **Legionella Risk Management in Healthcare Facilities**

Presentation shall cover ASHRAE Standard 188 "Legionellosis: Risk Management for Building Water Systems" with a focus on Healthcare facilities and HVAC systems. Legionnaires' disease is a form of pneumonia, which principally affects the elderly (especially males), smokers, dialysis patients and people whose defense systems are impaired. The Centers for Disease Control (CDC) estimates that in the U.S. there are about 8,000 to 18,000 cases of Legionnaires' disease every year, with about 3,000 reported. It is caused by the inhalation of aerosolized water droplets of breathable size (1 – 5 µm) contaminated by the infectious strains of Legionella bacteria. Legionella bacteria can be found in natural water sources (rivers, lakes, or streams), mud, and soil samples. It has been isolated from environmental water sources such as evaporative condensers, cooling towers, air handling equipment and humidifiers. Legionella can also be found in potable water sources such as shower heads, water fixtures and ice machines.

#### **November 11, 2016 Lunch:**

WVU Students and Northern chapter members Location: Morgantown, TBD

#### **December – Social Event – Please provide us (Sam) with your input on location**

#### **January 12th, 2017:**

At the Charleston Civic Center Tour of their new and remodeled facilities.

Presentation on the Civic Center Design-Build Process and Selection

Presentation on Variable Primary Chilled Water Systems

#### **January 26th, 2017: (Tentative)**

Presentation to WV Association of School Administrators "Obtaining High Performance School Buildings"

Art Hallstrom, P.E., ASHRAE Fellow, Karen Reagor, State Director, KY NEED Project (National Energy

Education Development). Samuel Butzer, P.E.

#### **Jan 27-31, 2017 ASHRAE Society Meeting and AHRI Show in Las Vegas, Nev.**

#### **February 9th, 2017:**

Marshall Students – Engineering and Business plus Western Chapter Members

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1. How to Communicate in a Professional World with Technical Information
2. Applied Psychometrics
3. Sustaining ASHRAE Through Leadership, Mentoring Our Future

**March 22nd, 2017:**

Charleston Building EXPO, Charleston Civic Center

Distinguished Lecturer – Dennis Knight

His topics:

1. Developing an Integrated Personal Management System.
2. Integrated Building Design and Building Information Modeling.
3. Building Performance Analysis for Building Performance Rating Systems.

**April, 2017 - ASHRAE Annual Webinar****May 11th, 2017:**

WV ASHRAE Chapter Training and Trade Show

Days Inn in Flatwoods, WV.

**Upcoming meetings by Associate Societies:**

WV-USGBC has a tour of a LEED building set for October 5th

<http://www.usgbc.org/event/leed-building-tour-and-networking-event>

**[ASHRAE Region VII Chapters Regional Conferences \(CRC\) Recap](#)**

The 2016 Region VII CRC was held this year in Birmingham, AL the first week of August. The purpose of this conference is for the chapter leaders and members to meet, collaborate, and conduct the business for the Region. The CRC agenda consisted of 3 days of various business meetings, technical sessions, a technical tour, and committee workshops. During the committee workshops, chapter committee chairs and officers are trained to meet the expectations of their office and responsibilities for the coming year. Leaders in the Region also identify up and coming leaders in ASHRAE for regional and society positions.

The Regional leadership recognizes the service and dedication of the chapter volunteers at the annual Awards Luncheon. Several awards were presented to the WV Chapter and Chapter members for their continued excellence in chapter operations.

**[Monthly Government Affairs Update](#)**

In this space each month, we will provide a snapshot of federal and state government activity.

**Federal legislative and regulatory activities:**

Request for Public Comment on Weatherization Assistance Program Guidance

- Energy Bill Conference Discussions Continue
- New Tool Tracks, Explores Paris Climate Agreement Ratification
- Public Comment Period Extended for EPA Proposed Design Details for Clean Energy Incentive Program

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- GSA Issues New Federal Lodging & Meal Allowances
- Draft Rule on Payment in Kind for Federal Speakers at Meetings & Similar Events Released by GSA
- DOE Proposes Rule on Test Procedures for Walk-in Coolers & Freezers that Incorporates ASHRAE Standard 23.1-2010
- Comment Period Reopened for DOE Rulemaking on Energy Conservation Standards for Portable Air Conditioners
- HUD Seeks Comments on Building Energy Benchmarking Data Collection Proposal

Additional information on each of these activities can be found on the following website:

<https://www.ashrae.org/government-affairs/government-affairs-updates#current>

#### [New Tool Tracks, Explores Paris Climate Agreement Ratification](#)

The Paris Climate Agreement is a main driver of global discussions on climate change mitigation and energy efficiency, yet the details of the Agreement itself and the conditions under which it goes into force can be a little challenging to understand. For instance, many may believe that when the Agreement was adopted last year in Paris, that the next step is for countries to simply implement steps to comply. However, this is not the case – more actions are needed.

Acknowledging the need for clarity, a [new tool](#) has been developed that tracks which and how many countries have formally ratified the Paris Climate Agreement. This interactive tool allows you to hover over countries and view information on whether they signed and the percentage of their global emissions. You can even select different countries to explore scenarios that would result in the enforcement threshold being met.

For the Agreement to take effect, at least 55 countries representing at least 55% of global GHG emissions must sign-on. Currently, there's quite a ways to go (22 countries presenting about 1% of emissions have ratified), but many others have promised to formally ratify the Agreement by the end of 2016.

The tracker can be found by clicking [here](#).

#### [Proposed ASHRAE/ACCA Standard for Energy Audits](#)

ATLANTA – A proposed joint standard from ASHRAE and ACCA establishes consistent practices for conducting and reporting energy audits. Standard 211P defines the procedures required to perform ASHRAE Level 1, 2 and 3 Energy Audits and provide a common scope of work for these audit levels for use by building owners and others as well as establish standardized industry practices and minimum reporting requirements for the results.

An initial Advisory Public Review (non-ANSI) of the standard that closed in December 2015 resulted in more than 600 comments from some 100 people. Changes made as a result of that review include:

- Expansion of scope to include multi-family residential buildings.
- Modification of requirements for energy auditor qualifications
- Addition of specific guidance around the energy audit quality control process
- Improvement of reporting forms for usability
- Review of reporting formats for compatibility with BuildingSync, the DOE protocol for transmitting energy audit data with XML files
- Addition of optional input guidance to for compatibility with the DOE's Asset Score rating approach for existing building assessments.
- Updated procedures guidance to be more audit customer-oriented and include measures for reasons beyond energy-savings benefits
- Refined guidance around Level 3 procedures
- Clarified actions for energy auditor vs what may be supervised
- Removal of energy efficiency measure recommendations appendix (these are found in ANSI/ASHRAE/IESNA Standard 100-2006, *Energy Conservation in Existing Buildings*)

ASHRAE first addressed audits in 2004 with its publication *Procedures for Commercial Building Energy Audits* (1<sup>st</sup> Ed), which introduced the concept of ASHRAE Level 1, 2 and 3 Energy Audits as a shorthand for designating the depth of an energy audit. That concept is now commonly used in the commercial building sector. In 2011, a second edition, which added guidelines for best practices in energy audits, was published.

#### [ASHRAE Standard to Provide Unity in Rating Systems](#)

ATLANTA – ASHRAE Standard 214P, *Standard for Determining and Expressing Building Energy Performance in a Rating Program*, will provide a standardized approach for determining and expressing building energy performance in a rating program and standardizes the content of a label associated with the energy component of a rating program. It also will establish minimum requirements for rating program documentation.

The proposed standard has just closed for public comments. There are many entities in the marketplace that rate buildings utilizing a number of different building rating systems yielding varying results, according to Wayne Stoppelmoor, Chair of the Standard 214P committee. The proposed standard is meeting a need for uniformity in the building energy labeling and disclosure process. The standard underwent a public advisory review in August, resulting in 40 comments. One of the changes made as a result of that public review was revision of the title, purpose and scope to better reflect the actual content of the standard. The change inserted a section that restricts the standard to only apply to the energy component of a rating program. The title, purpose and scope also was revised to state that the standard is to be used with one or more energy performance metrics.

Other major changes to the proposed standard include:

Revision to allow the rating program to define its methodology sampling rate

Addition of two means for an assessor to demonstrate competence

Addition of a Code of Conduct section

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