

ASHRAE Joint Meeting with WVSHE. New Membership and guests welcome

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[US Council of Mayors recommends adoption of latest building codes.](#)

Upcoming Events - this coming Friday!

[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 is required. Cost: \$40. Register here: www.wvashrae.org

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

c192@ashrae.net or 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 compares various current OR design guidelines. The focus is to verify and enhance the current design

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.

US Conference of Mayors Adopts Energy Efficiency Resolution

The US Conference of Mayors recently adopted a [resolution](#) in support of maintaining building energy codes the IECC 2015/ASHRAE 2013 level. The resolution, entitled "Moving America's Model Building Energy Code on a Path of Steady Efficiency Improvements Toward Net Zero" opposes the adoption of proposals that roll back the 2015 IECC's level of efficiency; and supports the adoption of the Energy Efficient Codes Coalition's Builder Flex Points proposal and its recommended 5% boost in efficiency for the 2018 IECC. (ASHRAE 90.1-2016 was just published and is ~8% better.) Additionally the resolution encourages municipal support for all eligible code officials to attend these hearings and to vote in favor of continued and future efficiency gains for America's latest model energy code.

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