

ASHRAE Distinguished Lecturer coming to WV

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JOIN WVSHE AND WVASHRAE

on Friday October 7th, 2016

For a Luncheon Seminar Focused on Healthcare Facility IAQ Seminar

Seminar Topics Include:

***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 Fee: \$40. Register and pay at 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 practices for hospital operating rooms by conducting on-site field experiments, full-scale laboratory experiments, 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

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.

2015-2016 WV ASHRAE CHAPTER Past President's Message:

I want to thank and congratulate all of our Chapter Leaders and Members for making this past year a huge success! We have kept the progress of our new and small chapter moving in the right direction as established by our two past Presidents, Todd Zachwieja and Grant Spencer, and our new President, Sam Butzer, has a great plan and supporting team that will make this an even better year. WV ASHRAE has received great praise and recognition from our peers at both the Regional level and the Society level. We are on the verge of receiving the ASHRAE Premiere Chapter Status, which is achieved by meeting PAR in the Presidential Award of Excellence (PAOE) points every year since becoming a chapter. Below is a look at how our Chapter performed this past year in the PAOE categories:

CTTC - Congratulations to James Lowry for receiving the Region VII Chapter Program Star Award for outstanding performance and taking first place in the region. James' efforts resulted in 2650 PAOE points – 10th highest point total in the world.

GGAC – Congratulations to Art Hallstrom for his outstanding achievements this past year. Art won the ASHRAE Society GGAC Award this past year. There is only one award recipient chosen from around the world each year. Art took first place in the Region VII GGAC PAOE category with 3095 point – 6th highest point total in the world.

Membership Promotion – Congratulations to Art Hallstrom for taking first place in Region VII with 1945 points – tied for 20th in the world. This is an outstanding finish in a small state and chapter like ours,

Research Promotion – Congratulations to Ray Wohlfarth for exceeding PAR and for organizing our first Day of Training and Trade Show – this was a big success for us last year and we hope to make it better this year! Ray placed 87th in the world.

Student Activities – Congratulations to David Cotton for exceeding PAR points and placing 35th in the world. David has been instrumental in working with Dr. Ken Means to establish our WVU Student Branch and keeping them on track. We look to add a Marshall University Student Branch this coming year!

Historical – Congratulations to Joe Rigney for exceeding PAR, tying for 2nd in the Region and tying for 22nd place in the world. That's a pretty big accomplishment considering we have a very short history to pull from.

Chapter Operations – We finished with 2450 points – 2nd in the Region behind East Tennessee (2475) and 23rd in the world.

OVERALL – We finished with a total of **13934 PAOE Points** and exceeded PAR in all categories. We took 2nd place in the Region by 4352 points over the 3rd place Chapter and were only 573 points out of 1st place. We finished 17th in the world.

GREAT WORK EVERYONE and THANK YOU for all the time that you put into making our Chapter so successful, after all we are ALL volunteers!

I hope you will all join me in supporting Sam Butzer as we head into this new year and help to keep our Chapter on the path to Premiere Status and more importantly, provide useful, meaningful and educational programs, events and support for our members and State.

Sincerely,

[Jennings L. Davis II, P.E.](#)

President 2015-2016

Future Meetings after Oct 10

November Meeting (November 11th):

WVU Students

Northern chapter members

Location: Morgantown, TBD

December – Social Event – Please provide us your input

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.

February 9th, 2017:

Marshall Students – Engineering and Business

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His topics:

1. How to Communicate in a Professional World with Technical Information
2. Applied Psychrometrics
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.

May 11th, 2017:

WV ASHRAE Chapter Training and Trade Show

Days Inn in Flatwoods, WV.

Upcoming meetings by Associate Societies:

WV-AIA has a meeting scheduled on September 23rd and November 18th.

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

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



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