# ASHRAE

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

**TWIN TIERS CHAPTER**

Annual Spring Symposium and Professional Development Seminar
Tuesday, April 16, 2019, 8:30 A.M. – 5:00 P.M.
Holiday Inn Binghamton - Downtown, 2-8 Hawley St, Binghamton, New York

## EARN UP TO 7.5 Professional DEVELOPMENT HOURS!

The ASHRAE Twin Tiers Chapter 2019 Spring Symposium provides a local opportunity to bring together practicing professionals, engineers, academics, contractors, owners and others to discuss with respected experts issues and challenges that our industry faces. This year's symposium offers attendees opportunities to review some of the industries latest energy efficient technology as well as techniques/methods that could employ them.

### SCHEDULE OF EVENTS

8:00-8:30 A.M. Registration - Foyer
Includes: Coffee, Muffins, & Fresh Fruit

8:30-10:00 A.M.

| Binghamton Room | Endicott Room |
|---|---|
| "Advanced Building Energy Modeling for Early Design Support"<br>**1.5 PDH**<br>Daniel Nall P.E., ASHRAE DL | "Steam and Condensate Systems"<br>**1.5 PDH**<br>Christopher Bove & Matt Davidson |

10:00-10:20 A.M. Morning Break – Foyer

10:20-11:50 A.M.

| Binghamton Room | Endicott Room |
|---|---|
| *"Evolution and Emerging Technologies of Fire Alarm Systems"*<br>**1.5 PDH**<br>John Sendrowski, Johnson Controls | *"Pressure Control Solutions for Potable Water"*<br>**1.5 PDH**<br>Steven Wortman, Victaulic |

12:00-1:40 P.M. Lunch & Presentation Followed by the Monthly Chapter Meeting
**Lecturer: Stephanie Taylor MD, ASHRAE DL**
**Presentation: *"The Healing Power of Indoor Air"***

1:40-3:10 P.M.

| Binghamton Room | Endicott Room |
|---|---|
| *"Vibration Isolation of HVAC Systems"*<br>**1.5 PDH**<br>James Tauby P.E., ASHRAE DL | *"A Holistic Look at Condensing Systems and Optimization"*<br>**1.5 PDH**<br>Jacob Hall, ProAir Plus |

3:10-3:30 P.M. Afternoon Break – Foyer
Includes: Soft Drinks & Snacks

3:30-5:00 P.M.

| Binghamton Room | Endicott Room |
|---|---|
| *"Laboratory Air Flow Control Devices"*<br>**1.5 PDH**<br>Rob VanSkiver, H&V Sales | *"Free-Cooling and Heat Recovery Opportunites"*<br>**1.5 PDH**<br>Michael Collins & Gian Marc Casolini |

*Please Note: The ASHRAE Twin Tiers Chapter reserves the right to change the schedule, speakers and presentations without notice.*

# Presentation and Speaker Highlights

## Advanced Building Energy Modeling for Early Design Support

PIE Course P00265 | 1.5 Professional Development Hour

### Daniel Nall P.E. – ASHRAE Distinguished Lecturer

This presentation examines several different innovative approaches to HVAC systems that demonstrate significant improvements compared with conventional systems. Three approaches to reducing energy consumption for heating and cooling sources.

- Hybrid thermo-pile system
- Dual temperature redundant chiller plant
- Diurnal thermal storage for reducing water source heat pump make-up heat

Two airside system approaches to minimizing reheat for dehumidification are also presented. The systems are designed for high airflow, humidity controlled spaces that ordinarily rely on reheat to maintain conditions, but the presented configurations significantly reduce the need for reheat.

- Return bypass air handling unit for health care
- Return air plenum system for mixed-use laboratory buildings

*Mr. Nall is an independent energy efficiency consultant in Princeton, NJ. A graduate of Princeton University and Cornell University, he is a Registered Architect, a Professional Engineer, an ASHRAE Life Fellow, a Fellow of the AIA, a LEED Fellow, a certified Building Energy Modeling Professional, a High Performance Building Design Professional and a Certified Passive House Consultant. ASHRAE activities include the ASHRAE Advanced Energy Design Guide Steering Committee, the Project Committee for the Advanced Energy Design Guide for Zero Energy K12 Schools, the Building Energy Quotient Ad-Hoc and Oversight Committees, and TC 4.7. He helped author the 30% Advanced Energy Design Guides (AEDG's)'s for Small Office Buildings, Small Retail Buildings, Roadside Lodging and Small Warehouses, and the 50% AEDG's for Medium Office Buildings, Medium and Big Box Retail Buildings, and Grocery Stores. He is one of the four participants in the "Engineer's Notebook" monthly column in the ASHRAE Journal. He received the ASHRAE New York Chapter Distinguished Service Award in 2011 and the ASHRAE Distinguished Service Award in 2012. He has been a member of the Board of Directors of the USGBC NY Chapter, the vice-chairman of the USGBC Energy and Atmosphere Technical Advisory Group and a member of the AIA National Committee on the Environment.*
*Mr. Nall was named one of the "25 Newsmakers of 2007" by Engineering News Record magazine. He was named "Outstanding Practitioner, 2004", by the US Chapter of the International Building Performance Simulation Association. Notable projects include the BASF U.S. Headquarters, the Newseum in Washington, DC, the Hearst Corporate Headquarters, the U.S. Embassies in Sofia, Bulgaria and Cape Town, South Africa, the Clinton Presidential Library, the New York Times Headquarters and the Alcoa Corporate Headquarters. He is the author of over 40 papers in technical and professional journals. He has been a Visiting Lecturer at the University of Pennsylvania, Cornell University and Princeton University Schools of Architecture and an Adjunct Associate Professor of Architecture at Columbia University.*

## Laboratory Air Flow Control Devices

PIE Course P00269 | 1.5 Professional Development Hour

### Rob VanSkiver

This presentation will touch on the three categories of laboratory control valves. It will discuss how each category measure and control airflow and what the performance aspects are. It identify when to use each type of laboratory control valve in critical applications.

*Rob has 15 years' experience in the Building Automation and Mechanical fields. He has been a part of numerous lab projects in the Healthcare, Research and Development, Pharmaceutical Manufacturing and Higher Education sectors throughout Upstate, NY. Rob has an associate degree in Air Conditioning Engineering Technology from SUNY Canton and an MBA from St. John Fisher College.*

## Evolution & Emerging Technologies of Fire Alarm Systems

PIE Course 20150338 | 1.5 Professional Development Hour

### John Sendrowski

The basis of this presentation is to review how technology has been growing and changing fire detection over the past 2o years. Many of these changes have happened in the past five years as codes have opened to the use of IP technology and the presentation makes people aware of these new technologies, why they were created and the advantages to customer, end users and building occupants. The presentation also talks about where technology is likely to take us in the future and how we can resolve some of today's challenges caused by our current changing communications infrastructure.

*John Sendrowski has worked for over 39 years in the fire alarm business with Simplex Time Recorder Co., SimplexGrinnell and now Johnson Controls. Twenty five of these years were dedicated to the technical side of the Fire alarm business; testing, programming and troubleshooting fire alarm equipment. In 2004 he moved to the sales side of the business as a Sales Engineer before moving to his current position as the NE Regions Field Sales Engineer. He is a graduate of Montachusett Regional Vocational Technical School with a certificate in electronics, is NICET level IV certified in Fire Alarm Engineering and holds a U.S. patent for an emergency communications signaling device known as the Non Addressable Dual Strobe.*

## Pressure Control Solutions for Potable Water

PIE Course P00263 | 1.5 Professional Development Hour

### Steven Wortman

The presentation will discuss the design & application of pressure reducing valves for plumbing & mechanical systems. Topics will cover operation, design, and sizing of PRV's.

*Mr. Wortmann has more than 20 years of experience in various roles including technical support and product development, primarily on valve product lines. He holds eight patents for inventions relating to valves and fluid control. Steven is an Applications Engineering Group Leader with Victaulic. He received a BS in Mechanical Engineering at Lafayette College. He is responsible for technical product support in the Plumbing, Heating and Air Conditioning, Industrial, and Infrastructure markets. He is a member of ASHRAE and the American Society of Plumbing Engineers (ASPE).*

## A Holistic Look at Condensing Systems and Optimization

PIE Course 20190267 | 1.5 Professional Development Hour

### Jacob Hall

This presentation is a holistic look at condensing heat rejection equipment, design principles and system selection optimization. It will provide participants with a brief overview of condensing heat rejection equipment and applications. Discuss strategies for equipment selection with system optimization for both first cost and life cycle operating cost, applications of new technologies.

*Jacob Hall joined Pro Air Plus in 2013, and has over 15 years experience as a sales engineer by offering product technical support and working closely with design professionals, contractors, and building managers in applying, selecting, and procuring equipment appropriate for the application. He has a broad background and understanding in facility/plant HVAC systems, Building Automation, Chilled Water Systems, Custom Air Handling Units, Decentralized Systems, Industrial Systems, Healthcare, Education, Commercial, and Energy Conservation. He has a BS in Mechanical Engineering from the United States Naval Academy.*

## Vibration Isolation of HVAC Systems

PIE Course P00264 | 1.5 Professional Development Hour

### James Tauby, P.E. – ASHRAE Distinguished Lecturer

This presentation will focus on the different ways to vibration isolate equipment, piping and ductwork. The presentation includes information on vibration isolation theory, specifications and selection tables.

*Mr. Tauby is Chief Executive Engineer for Mason Ind. Inc., a worldwide leader in the field of noise and vibration control products, as well as seismic and wind restraint systems. He is a professional engineer in over 45 states, District of Columbia and in New Zealand. He holds a BS in Mechanical Engineering from the University of Alabama. He regularly lectures around the world on tropics ranging from vibration isolation, seismic and wind restraint of mechanical systems to the use of elastomeric expansion joints for piping in seismic applications. He was a member of a team of engineers that inspected numerous buildings after the Loma Prieta, Northridge and Santiago Chile earthquakes. He has been a featured speaker at ASPE and ASHRAE National Conventions numerous times. He is an ASHRAE Fellow and Distinguished Lecturer and has received the Distinguished Service Award from ASHRAE. He is a past chairman of ASHRAE's Technical Committee TC-2.7, "Seismic and Wind Restraint Design". He is currently the chairman of ASHRAE standards committee SPC 171P, "Method of Test of Seismic Restraints of HVAC & R Equipment". He is currently ASHRAE's liaison to ASCE's Wind Load Task Group. He is a member of the "Hanging and Bracing of Water-Based Fire Protection Systems", technical committee for NFPA-13. He is a corresponding member of BSSC's TS-5, Masonry construction. He was a member of the BSSC's "Anchorage Task Group". He was an editor on FEMA documents 412, 413 & 414 for the installation of seismic restraints on equipment, piping, ductwork and electrical distribution systems. He was the lead author on the ASHRAE design Publication, "Practical Guide to Seismic Restraint". This publication includes code requirements, specification considerations, seismic restraint connection methods, along with determining whether a piece of outdoor equipment is governed by seismic or wind loads on a particular project.*

## Steam and Condensate Systems

PIE Course P00270 | 1.5 Professional Development Hour

### Christopher Bove & Matt Davidson

The presentation will offer an introduction to steam and condensate systems commonly seen in commercial, industrial and healthcare applications.

*Mr. Bove and Mr. Davidson work with RL Stone out of their Rochester NY location. Christopher is a Vice President and has over 30 years of experience in the steam industry. He has a BS from Clarkson University, MBA from Pepperdine University and is currently on the BOD of the ASHRAE Rochester chapter. Matt has worked as a Sales Engineer for the past 3 years. Prior to working at RL Stone he studied and graduated from Clarkson University with a Bachelor of Science in Chemical Engineering. The company provides extensive process control equipment, systems and services, and HVAC and Steam specialty products for the industrial, commercial and municipal markets. They are active members of ASHRAE, TAPPI, ISA, ASPE, Rural Water Association, AFE, GVRHEA.*

## The Healing Power of Indoor Air

PIE Course P00267 | 1.5 Professional Development Hour

### Stephanie Taylor MD – ASHRAE Distinguished Lecturer

Our health is our number one resource, and we spend the majority of our time indoors. Despite these givens, there is little data which directly relates human physiology to indoor spaces. Meanwhile, current building codes focus on regulating energy consumption and averting catastrophic building events such as fires. This presentation will focus on the relationship between building design and occupant health, not just occupant comfort, providing sound evidence for new design and maintenance standards for residential, academic and commercial buildings. Maintaining optimal health and productivity for all people will decrease job absenteeism, improve student learning and alleviate the financial and human burden of chronic illness and acute infectious disease.

*Dr. Stephanie Taylor received her MD from Harvard Medical School, Boston, Massachusetts and subsequently practiced pediatric oncology for several decades. Concerned about the role of the hospital building in transmitting infections, she returned to school to get her Master's in Architecture to better understand design and management of the built environment.*
*Dr. Taylor now does research with the National Institute of Health, national and international healthcare facilities and schools to identify building characteristics and indoor-air parameters that affect occupant health, productivity and learning. This approach has revealed remarkably powerful relationships between architectural design and indoor air management, and the health and performance of all building occupants. This includes patients in hospitals, employees in office buildings, students in schools and all of us in our homes.*
*Dr. Taylor is the CEO of Taylor Healthcare Consulting, Incite Health Fellow at Harvard Medical School, ASHRAE Distinguished Lecturer and Fellow of the School of Art and Architecture at Norwich University, Northfield, Vermont. She was also a 2019 recipient of the, "Top 20 Women to Watch in HVAC Engineering" award.*
*In addition to publishing her research in peer-reviewed journals, she writes monthly columns and bi-annual feature articles in Engineered Systems Magazine. She lives in Stowe, Vermont with eight dogs and a non-dog guy husband, and one of her favorite activities is skydiving with her son, who is also a physician.*

## Free-Cooling and Heat Recovery Opportunites

PIE Course P00xxx | 1.5 Professional Development Hour

### Michael Collins & Gian Marc Casolini

This presentation will review opportunities and challenges related to heat exchanger design and filtration technologies designed to protect the heat exchangers for the following applications:

<u>Free Cooling</u>

a)River & well-water Cooling & Heat Recovery

<u>Heat Recovery</u>

a)Air Compressor, Boiler blowdown, Refrigeration & HVAC

b)Heat Recovery for Process Applications

*Michael it the President and founder of Eagle Bay Refrigeration Inc, a manufacturer's representative firm based in Syracuse NY that focuses on HVAC and Refrigeration solutions for healthcare, breweries and wineries, process cooling, agriculture, dairy, and industrial refrigeration applications. He has over 25 years of experience in HVAC and Refrigeration industry. Twelve years as an application engineer with Carlyle Compressor, a Division of Carrier Corporation, four years as an Account Manager and Application Engineer with BITZER US and four years as the Application Engineering Manager for Carlyle Compressor. BS Mechanical Engineering, University at Buffalo. ASHRAE, ASHE, AFE*

*Gian Marc is the National Sales Manager for R.P. Adams, a manufacturing company based in Buffalo NY. R.P. Adams was founded in 1937 and over their 80+ year history has become known as a high-quality manufacturer of heat exchange and liquid filtration equipment. Gian Marc has been with RP Adams for nine years and is responsible for sales planning, business development, and management of the sales staff. He has 20+ years of technical sales and brings extensive product knowledge and technical skill in the areas of heat transfer and filtration. MBA Business, University at Buffalo School of Management.*

# Tuesday, April 16, 2019

## ASHRAE Twin Tiers Chapter Annual Spring Symposium and Professional Development Seminar

**A maximum of seven and a half (7.5) Professional Development Hours (PDH) towards the New York State Professional Engineering continuing education requirements will be available to attendees!**

**EARLY PRE-PAID REGISTRATION DEADLINE: FRIDAY, APRIL 5, 2019**

**Send Pre-Paid Registration by Mail or Pay on-line at *http://twintiers.ashraechapters.org***

**Symposium Registration Includes Morning Refreshments, Buffet Lunch and Afternoon Refreshments**

**PLEASE REGISTER EARLY!! – SPACE MAY BE LIMITED!**

Presentations are free to all students, $10 for student lunch.

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| **Name** | | ASHRAE, ACEC, or NYSSPE Member Early Registration | $ 125 | |
| **Company/Affiliation** | | ASHRAE, ACEC, or NYSSPE Member After April 8, 2016 | $150 | |
| **Address** | | Non-ASHRAE Member Early Registration | $150 | |
| **City/State/Zip** | | Non-ASHRAE Member After April 8, 2016 | $175 | |
| **Preferred Email** | | Student Attendance | $ 0 | |
| | | Student Attendance with Lunch | $ 10 | |

Pay by credit card using PayPal (no account required) at our chapter website ***http://twintiers.ashraechapters.org*** or mail payment and registration to the following address. **Checks should be made payable to "ASHRAE Twin Tiers Chapter", 2019 Spring Symposium, and can be sent to Adam Keller, 822 State Fair Blvd, Syracuse, New York 13209**

**Inquiries: Devin Shapley – dshapley@mjinc.com**