

## 2018 Southern Tier Professional Development Symposium

**Tuesday, October 2, 2018**

**Binghamton Holiday Inn Arena**

Johnson City Room	Southern Tier Room	Binghamton Room
<b>REGISTRATION 7:00 - 8:00 A.M., Outside Johnson City Room (includes coffee, muffins and fruit)</b>		
8:00 Back to the Basics on Corrosion of Metals, Focusing on Steel in Concrete	8:00 This first session will be in the Johnson City Room for all attendees.	8:00 This first session will be in the Johnson City Room for all attendees.
<p>Much of the loss of serviceability of reinforced concrete is related to the corrosion of reinforcing steel. The objective of this presentation is to explain why steel corrodes in the presence of air and water, why corrosion is accelerated in the presence of Upstate New York deicing salt, and how the whole process generates voltage and current. The good news is that uncontaminated concrete can protect steel and iron from corrosion. The bad news is that once salt, water, oxygen or carbon dioxide penetrate concrete, the environment becomes conducive to corrosion. These same principles explain how we can detect active corrosion with the electrical potential test, how cathodic protection works, and why a little chip in paint on your car body (or a chip in epoxy coating) can swell into a large spot of corroded metal. The goal is to provide news you can use, not chemical or electrical buzzwords.</p> <p>Ken Hover is Professor of Civil &amp; Environmental Engineering at Cornell, where his teaching and research focuses on concrete materials, design, and construction. He was a Captain in the U.S. Army Combat Engineers, project engineer and project manager for Dugan &amp; Meyers Construction Co., and a partner and manager THP Structural Engineers in Cincinnati. He holds Bachelors and Masters Degrees in Civil Engineering from University of Cincinnati, and the Ph.D. in Structural Engineering from Cornell. Ken is a P.E. in Ohio and New York, was named one of the "Ten Most Influential People in the Concrete Construction Industry." He received NRMCA's Gaynor Award and is a Distinguished Member of ASCE and Past-President of the Ithaca Section. He is a Fellow, Past President, and Honorary member of ACI, and an Honorary Fellow of the Institute of Concrete Technology in the UK.</p>		
9:00 - 9:15 Break - Registration Open		
9:15 Advances with Cured in Place Pipeline Technology- Mike Ralbovsky (2 PDH Must attend both sessions)	9:15 What Does an Open BAS Really Mean? Joseph Klotz	9:15 Introduction to Geometric Dimensioning and Tolerancing (GD&T)- Michael Brown
The presentation will discuss the problems with the current steam/water Cured felt pipe relining market and the current UV-Cured In Place Pipelining Systems. It will introduce NSF-61 Approved Water Liner	This presentation considers the context, misconceptions, misrepresentations, assumptions and use of the word "Open" in reference to Building Automation Systems (BAS). The presentation looks at the evolution of BAS architecture and network communications protocol development, examines proprietary and open protocols in this historical context, proposes BAS specifications, procurement and support considerations, and looks at the different types and levels of integration with the IT infrastructure 3rd party software applications and other facility operational technology devices and systems.	This course is designed to help you understand the basics of GD&T. Upon completion, expect to understand many of the various symbols used, recognize application-based options, and comprehend GD&T-based drawings. Proper application of GD&T (1) provides opportunities to improve communications with internal and external suppliers regarding dimensional requirements of parts and assemblies, (2) allows for engineers to perform tolerance stack-up analyses to determine those requirements (tolerance analysis will not be covered in this course), and (3) reduces fit-up issues in manufacturing and assembly due to improved designs

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<p>Mike Ralbovsky is responsible for developing customer bases for both Springs Technical Services and Precision Trenchless. The main markets are UV-Cured-In-Place and Milliken GeoSpray Pipelining Systems for various users- Education, Healthcare, Industrial, Government, and Engineering and Consulting Firms. His responsibilities include marketing and project management. Mike has a Bachelor's Degree in Industrial Distribution &amp; Marketing from Clarkson University.</p>	<p>Joseph H. Klotz; Johnson Controls, BAS and Controls Business Development Manager Much of Joe's career has been focused on using technology to drive awareness, occupant safety, sustainability and energy savings in multi-site and large facilities. Joe has been in the HVAC / BAS industry since 1981, as a public facilities director, international business manager, and CEO of a BAS manufacturer. Joe graduated from the University of Alaska Fairbanks with a BS in Natural Resources Management. Joe has been with Johnson Controls for 13 years; his work and responsibilities include energy management, and sustainability projects. Joe is an ASHRAE member and a frequent speaker at industry events.</p>	<p>Michael Brown is a Mechanical Design Engineer at The Raymond Corporation in Greene, NY, who has more than 15 years of industry experience. Along with developing new products for Raymond, he is the subject matter expert in GD&amp;T, practicing, teaching courses, and supporting the engineering and manufacturing teams. Prior to working at Raymond, Brown was a Research Engineer at Reactive NanoTechnologies in Hunt Valley, Md. He has a BS degree in Mechanical Engineering from Rochester Institute of Technology. Brown currently lives in Endicott, NY with his family.</p>
<p>10:30 Advances with Cured in Place Pipeline Technology- Mike Ralbovsky (2 PDH Must attend both sessions)</p>	<p>10:30 Sustainability and Resilience – Examples of Community and Campus Energy Assessments- Chonghui "CL" Liu</p>	<p>10:30 Equipment Failures and the Lessons they can Teach Us - Neville Sachs, P.E.</p>
<p>Continued ...The presentation will discuss the problems with the current steam/water Cured felt pipe relining market and the current UV-Cured In Place Pipelining Systems. It will introduce NSF-61 Approved Water Liner</p>	<p>In the current utility and facility design and management landscape, sustainability and resilience goals, unpredictable natural and human-induced disasters (e.g. Hurricane Harvey and Hurricane Irma within recent months), rising energy costs, and lean operation and maintenance (O&amp;M) budgets present fundamental challenges in the way communities and campuses manage their energy and facility resources. This presentation covers two key industry focuses: sustainability and resilience from a mechanical/energy engineer's perspective. Examples in different physical scales (community, campus, building, and equipment) will be presented to address sustainability and resilience in building mechanical design, energy assessment/planning, and commissioning practices.</p>	<p>A review of some impressive failures that I've seen and how they result from engineering or management errors. Included will be the following and there may be a few more:</p> <ul style="list-style-type: none"> <li>• A 60,000 gpm leak caused by water hammer a result of poor management</li> <li>• A million dollar flame-sprayed coating failure</li> <li>• A multi-million dollar tank replacement program caused by the sun and a lack of understanding thermal expansion</li> <li>• How to shut down a 1000 tpd Paper Mill for Six Days, a lesson in how poor management can allow fastener fatigue to happen.</li> <li>• A series of 6" shaft fatigue forces caused by the plant engineer revising the design and not understanding the resolution of forces</li> <li>• The failure of a 36" diameter trunnion roller from a rotary kiln caused by improper weld repair practices.</li> </ul> <p>The goal of the session will be to have the attending engineers better understand some of the key concepts that cause field problems.</p>

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11:30 AM In Carousel Room - Lunch & Presentation "Engineering Ethics - Ethical Decisions " - Beth Ann Smith (11:30 - 1:00)

Engineers make ethical decisions each day, from deciding what design criteria to use to management decisions based on apparent cost. Many engineering societies and licensure boards have an ethics statement to hold paramount the safety, health and welfare of the public. Licensing provides a minimal level of ethical practice. The questions that will help to determine ethical decisions will be reviewed and a few case studies will be discussed along with the consequences encountered. Objective is to present a set of questions to aid in ethical decisions in the current legal and professional requirements associated with engineering ethics.(1PDH)

Beth Ann Smith, PE, BCEE, M.ASCE has over 30 years of experience in civil and environmental engineering with special emphasis in the area of geotechnical engineering. Ms. Smith has her BS and MS from Syracuse University. Her experience includes consultant work on solid waste facilities, site investigation and remediation facilities, earthen and concrete dams, regulatory compliance for dams, preparing geotechnical engineering reports, slope stability analyses, and construction monitoring. Ms Smith's professional affiliations include ASCE, AAEE, Order of Engineer, ASDSO and SWE.

<p>1:15 Addressing Large Diameter Infrastructure Needs Utilizing CCCP and CCFRMP Technologies- Tom Perry</p>	<p>1:15 Air Management and System Pressurization- Steve Krisko</p>	<p>1:15 Ball and Roller Bearing Design and Installation Pitfalls- Neville Sachs</p>
<p>Discuss large diameter storm and sanitary sewer pipeline rehabilitation utilizing Centrifugally Cast Concrete Pipe (CCCP) and Centrifugally Cast Fiber Reinforced Polymer Mortar Pipe (CCFRMP) technologies.</p>	<p>A closed hydronic system that has been designed considering the basic fundamentals of air management can perform at the high level the engineer intended. Systems with inadequate air management can result in noise, shortened system life and may not operate at their intended efficiency. This presentation will address the fundamentals that should be included in every low temperature system (below 250F), including air separator location, expansion tank location and static fill pressure requirements.</p>	<p>The procedures for specifying ball and roller bearings haven't changed for many years, however there are some common errors that often result in poor machine reliability. This session will include hands-on examples and will review the internal dynamics of rolling element bearings and how small design revisions can greatly increase equipment life.</p>

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Tom Perry is President of Multi Utilities Ventures which works closely with consulting engineers, government agencies and contractors in the selection and design of trenchless technologies used in rehabilitation of the infrastructure.. He has seventeen years trenchless construction and marketing experience in the Northeast. He was previously with Advanced Drainage Systems Inc. Tom has a B.A. in Business from Montclair State University. He is a member of NJWEA Collection Committee, NYWEA Storm Water Committee and Board of Directors NE NASTT.	Steve Krisko has been a sales engineer in the HVAC and Industrial Pump market for 28 years. Steve is employed with the Frank P. Langley Co., Inc. the manufacturer's representative for ITT Bell & Gossett. He holds a B.S. in Mechanical Engineering from the Watson School of Engineering at Binghamton University.	see above
2:15 - 2:30 Break		
2:30-4:30 BMP for Disturbed Areas- Steve Zwilling (2 PDH)	2:30-3:30 Fire Safety with Concrete Masonry Products, Nick Carparelli	2:30-4:00 Properly Applying & Specifying VRF
The class will be reviewing the fundamentals of soils, site preparation and establishing sustainable vegetation. It will also cover the different methods of soil stabilization, products that are available in the market and when they should be used.	According to FEMA, from 2013 to 2015, civilian fire fatalities in residential buildings accounted for 83 percent of all fire fatalities. This presentation will introduce the concept of Balanced Design for design and construction of commercial, municipal and multi-family residential structures. Balanced Design includes three significant components; it is a combination of active and passive fire safety measures: <ol style="list-style-type: none"> <li>1. Automatic Detection Systems (Alarms, Active)</li> <li>2. Automatic Suppression Systems (Sprinkler Systems, Active)</li> <li>3. Compartmentation with non-combustible concrete masonry (Passive)</li> </ol> Screen reader support enabled.	This seminar will focus on VRF technology and how to properly apply and specify this equipment. Specifically, zoning with heat pump, applications to avoid, delivering ventilation air, piping differences between manufacturer's, performance differences, specification pitfalls, and specification tips.

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<p>Stephen R. Zwilling is the Eastern U.S. Market Development Manager for Profile Products, LLC, of Buffalo Grove, Illinois, USA. He has 23 years of experience in erosion and sediment control and Turfgrass management. Zwilling was a prior owner/partner of the Conwed Fibers Corporation. Zwilling holds a Bachelor's of Science Degree in Marketing Management from Pepperdine University. He is a past board member of the Erosion Control Technology Council (ECTC), a member of the International Erosion Control Association (IECA) and is currently on the Board of Directors of the Mid Atlantic IECA.</p>	<p>Nicholas F. Carparelli is the Executive Director of NYS Concrete Masonry Association. Since his appointment in 2003, Nick has been responsible for facilitating the development and implementation of programs intended to assist design professionals with the use of concrete masonry in various construction applications throughout NYS. He is also Co-Director of the NYS Structural Masonry Coalition, an alliance of masonry organizations working together to encourage the use of structural masonry. Nick has also served on the ACI-CNY Board. Screen reader support enabled.</p>	<p>Andrew Nice graduated from Penn College in 2007 with a Bachelor's of Science degree in HVAC Technology. He worked as a design engineer for Westcode Inc. which specialized in HVAC systems for passenger railcars. His primary project was the design and production of Philadelphia's new SEPTA Silverliner V Rail Car HVAC system. From 2010– Present, Andrew worked as a commercial sales engineer for Meier Supply's Applied Products Division. He has covered Eastern PA, and all of Upstate NY, but now focuses on the Southern Tier of NY. In this role, he has specialized in assisting the engineering community in properly specifying VRF technology for multiple brands and of all magnitudes.</p>

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