

April 24, 2018

PDH hours will be acceptable in New York State. Schedule subject to change.

7:30 to 8:15	Registration and Continental Breakfast						
8:15 to 8:30	Welcoming Remarks: Chris Devries, Chair of the 2018 ESR Committee						
	Civil Engineering Sponsored by ASCE	Civil Engineering Sponsored by ASCE/NYSATE	Mechanical Engineering Sponsored by ASME	Electrical Sponsored by IEEE	Mechanical, Plumbing, & Fire Protection Sponsored by ASHRAE and ASPE	Lighting and Power Sponsored by EAWNY	Energy Sponsored by AEE
Room	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX - YYYY	XXXX
Host	Chris Sichak	Paul Presutti	Ron Salzman	Dave Krispinsky	Jennifer Wengender	Joe Dombrowski	Rich Morelle
8:30 to 9:30	<p>NYXXX Prosperity via Energy Initiatives in Climate Smart Communities</p> <p>Ram Shrivastava</p> <p>This presentation discusses how communities can undertake strategic Energy planning to implement Energy Conservation &amp; Renewable solar Energy projects. Information about the NYS Climate smart communities program grants and the application process will be discussed. The presentation will include a Case History in Wayne County.</p>	<p>NYXXX Restoring History: The Beaverkill Covered Bridge</p> <p>Paul Presutti, P.E. &amp; Andrew Schwingel, Erdman Anthony</p> <p>The project presentation of the Beaverkill Covered Bridge will include discussion of the timber rehabilitation, stone abutment regeneration and complex hydraulic challenges, the importance of infrastructure to the surrounding community and the powerful influences the public can have on the rehabilitation of historic structures.</p>	<p>NYXXX A 'Carbon Dividends' Policy for Climate Change Mitigation</p> <p>Bill Bishop, PE</p> <p>A revenue-neutral carbon pricing approach will be presented. A "Carbon Dividends" policy places a predictable, steadily-rising price on greenhouse gases, thus encouraging market-based solutions to climate change and energy challenges</p>	<p>NYxxx High Voltage Power Supplies for Medical X-Ray generators</p> <p>Dr. Ram Dhurjaty</p> <p>Medical X-Ray generators are used in several applications. They vary from 70 Kilovolts and 5mA for dental applications to 140 Kilovolts and 2000mA for CT Scanners. This presentation will cover a broad outline of the design of such systems, including magnetics.</p>	<p>NYXXX NFPA 13 (2106) and NFPA 25 (2017) Major Code Updates</p> <p>Karl Wiegand, Globe Fire Protection</p> <p>Review major updates in the NFPA sprinkler code and in the maintenance code for water based fire protection systems.</p>	<p>NYXXX Emergency Power Connection Equipment</p> <p>Richard Denno</p> <p>: An overview of the need for emergency power and the options available for connection equipment including product selection considerations, functionality and benefits available</p>	<p>NYXXX "Where Should the Bio Gas Go?" Digester to Energy Case Studies</p> <p>Ms. Angela M. Hintz, PE, CEM, CEA, ENV SP</p> <p>Attendees will gain an understanding of the evaluation process and various considerations needed when applying an energy model in biogas projects through case studies at waste treatment facilities.</p>
	9:30 to 9:45	Break					
9:45 to 10:45	<p>NYXXX Change is in the Water - Policy, Regulations and Connecting the Dots</p> <p>Libby Ford</p> <p>This talk will first discuss the concept of "cooperative federalism". The talk will then update the status of various water-related regulatory changes including Waters of the US; NYS efforts to stem the effects of Harmful Algal Blooms; emerging contaminants; Legionella in potable water; and compliance with the Legionella cooling tower regulations.</p>	<p>NYXXX Irondequoit Bay Outlet Bridge Alternatives Analysis Study</p> <p>Rick Bennett, P.E.</p> <p>This presentation will summarize the study examining potential alternatives to provide year round access across the Irondequoit Bay Outlet. Design possibilities including rehabilitation of the existing bridge, new connections to Route 104 and a moveable bridge will be discussed.</p>	<p>NYXXX The Effect of Flow Control on Annular Gap Windage Power Loss</p> <p>Hsin-Hua Tsuei, PhD:</p> <p>This presentation will discuss the CFD findings that careful tuning of axial flow velocity in the gap can suppress windage power loss. In specific cases, reductions in windage power loss of up to 30 percent have been predicted and confirmed experimentally</p>	<p>NYxxx What Is And How Will Machine Learning Change Our Lives</p> <p>Dr. Raymond Ptucha</p> <p>Learn what, how, and why recent discoveries in machine learning are on par with and even surpassing human abilities. Then discover how AI is positioning itself to forever change most aspects our lives.</p>	<p>NYXXX Benefits and Applications of Commercial Tankless Water Heating Systems</p> <p>Tim Totten, Aercro</p> <p>Review available technology for tankless (on demand) domestic water heaters and compare to other water heater technologies with discussion of pros/cons and application specific examples</p>	<p>NYXXX Variable Speed Drive Basics</p> <p>Kevin Diehl</p> <p>A review of variable speed drive applications and available system topologies, possible drawbacks and feature selection</p>	<p>NYXXX Organic Rankin Cycle (ORC) Turning Waste Heat into Electricity</p> <p>Mr. Mark Daniels</p> <p>The presenter breaks down the components of the ORC and follows the energy flow corresponding to the refrigerant changes of state from evaporator to turbine/generator and the production of electricity</p>
	10:45 to 11:00	Break					
11:00 to 12:00	<p>NYXXX Bayonne Bridge - Reconstruction of a 1931 Steel Arch Bridge</p> <p>Joe LuBuono</p> <p>This presentation addresses the engineering work necessary to bring a structure designed in 1930 up to current codes and standards. Topics to be presented include steel strengthening design of the arch, wind engineering, construction sequencing, construction engineering, and new approach structures.</p>	<p>NYXXX Advanced Numerical Models for the Structural Evaluation of Masonry and Earthen Historical Buildings</p> <p>Renato Perucchio, PhD</p> <p>This session will present the results of numerical studies conducted by a multidisciplinary research team for assessing the structural damage and seismic vulnerability of the Frigidarium of the Baths of Diocletian in Rome and of the Saint Peter Apostle church of Andahuayillas, Cuzco.</p>	<p>NYXXX An Innovative Approach to Cleaning Diesel Exhaust Gasses</p> <p>Neville Rieger, PhD</p> <p>An innovative approach using an electrostatic plasma-based reactor has been developed to clean diesel exhaust. When two reactors and a small catalyst section were strategically placed in the exhaust stream, gas clean-up effectiveness of ~99% was achieved.</p>	<p>NYxxx Optical Packaging of Photonic Chips</p> <p>Prof. Jaime Cardenas, Ph. D</p> <p>We will discuss current and upcoming strategies to efficiently connect photonic chips in an optical package.</p>	<p>NYXXX How to Leverage Piping Systems to Increase Building Sustainability</p> <p>Tom Attenweiler, Lubrizol</p> <p>Review available piping materials for plumbing and hydronic systems and discuss pros/cons for each related to building sustainability and possible LEED credits</p>	<p>NYXXX Distributed Generation: Design Considerations for Optimizing Value (CHP, Microgrids and Hybrid Power Systems)</p> <p>Brent Voelker</p> <p>Presentation covers the application selection and specification of equipment for distributed power systems</p>	<p>NYXXX Rochester Electric Vehicle Accelerator</p> <p>Mr. Richard D. Stein, CEM, CRM</p> <p>An indepth look at a forward-thinking, grassroots initiative aimed at making the greater Rochester community healthier and more sustainable by facilitating widespread use of plug-in electric vehicles</p>
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12:00 to 1:30	<p style="text-align: center;">NYXXX Lunch and Keynote Program Peter C. DeMarco , Ethics Educator, Priority Thinking, LLC : "The Moral Fox."</p>						
	Civil Engineering Sponsored by ASCE	Civil Engineering Sponsored by ASCE	Mechanical Engineering Sponsored by ASME	Electrical Sponsored by IEEE	Mechanical, Plumbing, & Fire Protection Sponsored by ASHRAE and ASPE	Lighting and Power Sponsored by IES	[Reserved]
<b>Room</b>	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	[Reserved]
<b>Host</b>	Jim Baker	TBD	TBD	Dave Krispinsky	TBD	Joe Dombrowski	[Reserved]
	NYXXX The Bayonne Bridge - Project Development	NYXXX Monroe County's Path to Solar Energy = Western NY's Largest Municipal Solar Installation	NYXXX Sustainable Energy and Climate Action Planning at Cornell University	NYxxx "Do machine learning algorithms really learn?"	NYXXX Fire, Smoke, and Combination Fire/Smoke Damage	NYXXX Vibration Isolation	[Reserved]
	Joe LoBuono	Michelle Virts and Nathan Rizzo	W.S. (Lanny) Joyce, PE	Dr. Yossi Nygate	Michael J. Bulzomi	: Angela Waters	[Reserved]
1:30 to 2:30	This presentation addresses the project development story of the Design-Bid-Build procurement of the Bayonne Bridge facility, including the economic drivers that led to the project, improvements to the facility, the environmental approval process, and neighborhood impacts/mitigations.	The presentation will discuss the the 13 MW of solar-generated electricity project. The presentation will highlight the County benefits, the power purchase agreement regulatory framework and process, and solar panel system design, installation, and operation."	An overview of energy systems and energy conservation at Cornell University. The highly successful energy conservation program has allowed 22% growth since 2000 with a reduction in budgeted energy usage and more than a 30% reduction in carbon emissions. Cornell is striving to achieve a 2035 climate neutrality goal.	We will use real-world examples to explain how Machine Learning algorithms actually work. why they perform so well on certain problems and what are their limitations.	This presentation will provide an overview on life safety dampers, damper basics, code required testing and improper installations. Engineers will gain a knowledge in different types of dampers, correct application of dampers and common practices to utilize in the design of dampers	As code requirements become more stringent regarding vibration isolation, this course will review current code requirements. Design criteria and methods	[Reserved]
2:30 to 2:45	Break						
	NYXXX Inner Loop East Transformation Tunnel Lining Project	NYXXX Rev. Martin Luther King Jr. Memorial Park Restoration	NYXXX Eulerian Multiphase Conjugate Model for Chip-embedded Microchannel Flow Boiling	NYxxx Shading Effects on Photovoltaic Systems	NYXXX Climate Change Science for Engineers	NYXXX Applications of Light Rendering Software	[Reserved]
	James Hofmann, Bob Cody, and Jerry Means	Dwight Harringer	Hsin-Hua Tsuei, PhD	Rick Church, P.E.	William Bishop	Robert Radley	[Reserved]
2:45 to 3:45	Highlights the Inner Loop Transformation Project and the evaluation/design a rock-cut sewer rehabilitation. Discussion of the technical aspects associated with the investigation and design of rock tunnel rehabilitation (lining) improvements; the investigation/analysis process, detailed design/construction-related observations.	Review of the life cycle of a historic park located in downtown Rochester, New York. The talk sequence begins with the original Urban Renewal Plan, followed by the original design intent, detailed design, 40-year park rebirth, inclusion of the public, phased design, and some of the design decisions.	Chip stacks require a solution to significant thermal challenges. A potential solution is two-phase evaporative cooling. A multiphase CFD model has been developed for chip embedded microscale cavities and has been compared to experimental data.	The effects of partial shading on photovoltaic modules is modeled and the impact on energy production for various conditions is shown. Methods of mitigating losses and economic impacts are discussed.	A technical summary of climate change science, global and regional impacts, and mitigation and potential solutions. Engineers will walk away with sufficient background information on climate change to inform their engineering decisions and business practices and to enable them to educate and engage the public	As lighting software increasingly allows for realistic rendering, various software structures can lead to different presentation options leading to possible limitations.	[Reserved]
3:45 to 4:00	Break						
	NYXXX Mechanically Stabilized Earth Structures	NYXXX High Efficiency Dissolved Oxygen Delivery System for Water Treatment	NYXXX Advances in Steam Turbine Impulse Diaphragm Repairs	NYxxx TM-30-15 A New Standard for Measuring Light Quality	NYXXX Direct Replacement Packaged DX Systems	NYXXX Standby generators: A Guide to the Basics of Specifying Standby Generators	[Reserved]
	Mark E. Kluczynski, P.E. Gabriel Guzman, P.E. Rick Smith, P.G.	Jessica Hart-Terry BlueinGreen LLC	John M. Sassatelli, PE	Mark Schrader	Kelly Sprayberry	William Schneeloch	[Reserved]
4:00 to 5:00	The presentation will provide design and implementation information for mechanically stabilized earth structures. These structures may be an alternative to more common earth retaining structures., and the presentation will show where their use may be appropriate and illustrate the benefits of MSE structures.	This presentation will describe the fundamentals behind gas dissolution and its applications in water and resource recovery treatment in to understand gas dissolution applications and how to implement technologies.	Impulse steam turbine diaphragms are known to erode and dish in service in higher temperature regions of the turbine. Repair techniques for commonly observed damage will be examined from manufacturing and metallurgical perspectives. Numerical analysis and production repairs will be discussed.	ES TM-30-15 is a method for evaluating and characterizing how a light source will render the color appearance of objects. I will discuss the limitations of the current standard (CRI), how TM-30 was created, give an overview of this methodology, and compare results to CRI.	An overview on justifying Direct Replacement DX Rooftop Units with Energy Savings. Compressor technologies, Design of Multi-Zone and Bypass deck & Fan efficiencies, Micro Condensers and effectiveness of a direct replacement unit designed to meet existing curb, duct, and chase openings for ease of installation	Code requirements are becoming more detailed for emergency power. This presentation will review the basics components of specifying standby power systems.	[Reserved]
5:00 to 7:00	Cocktails and Conversation						