2015 E-Week Seminar Descriptions

**Introductory** = New to the engineering field, with little or no experience such as students.
**Intermediate** = A few years of experience in the field of engineering with a desire to build on it.
**Advanced** = A “seasoned” engineering professional with many years of experience.

**T** = Thursday Seminar and **F** = Friday Seminar

*Note: Some of these seminars might have been offered at other locations. It is your responsibility to determine what seminars you want to attend.*

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**BRIDGES**

**T** - Rehabilitation of the Silver and Walnut Creek Bridges in Chautauqua County, NY - **Intermediate**

*By: Cristina Brosio; HNTB; & Mario Cubello; NYS Thruway Authority - GDottino@hntb.com*

Start to finish presentation on the rehabilitation of the Silver and Walnut Creek Bridges in Chautauqua County, NY. Presentation will discuss the history of these bridges, existing bridge conditions, project objectives as well as the environmental process, final design and construction.

**T** - The New NY Bridge (Tappan Zee) – Design for Service Life - **Intermediate**

*By: Robert Allen; HDR - robert.allen@hdrinc.com*

The New NY Bridge (Tappan Zee Hudson River Crossing) will replace the existing span that crosses the Hudson River. This presentation will describe the crossing’s structures, describing the cable-stayed main span and lengthy approach structures. The presentation will focus on a key design challenge for the approach structures – providing seismic isolation to meet the 100-year service life. It will describe the seismic isolation design strategy and how models were organized, created and verified through using two independent models (RM Bridge and ADINA). The presentation will also discuss how the use of Bridge Information Modeling, BrIM, in design and construction will provide a foundation for NYSTA’s operations and maintenance over the service life of the structure.

**T** - Developing Precast Guidelines for Accelerated Bridge Construction Presentation – **Intermediate**

*By: Rita Seraderian; Precast/Prestressed Concrete Institute Northeast - contact@pcine.org*

The PCI Northeast Bridge Technical Committee has completed a series of guideline drawings, which represent the design and detailing of precast concrete substructures. These sheets provide an example of different substructure types for use on bridge projects. The presentation will discuss the developed material in more detail and how it can be used for accelerated bridge construction projects. The guide details will assist designers in determining the appropriate solution for precast substructures in design and construction. The committee is currently developing one more variation of the NEXT beam called NEXT “E”. All three variations NEXT “F”, “D” and “E” will be discussed. The committee is also developing guidelines for the Northeast Deck Bulb Tees. The goal of this new section, which has already been used in New York State and Massachusetts, is to provide a fast construction option for bridges with spans from 80 to 140 feet. The section resembles a standard NEBT girder except it has a wider thicker top flange that is the deck.
**T - Understanding AASHTO Specifications and Their Application** - Intermediate

*By: Timothy J. McKernnan; EJ - tim.mckernan@eijco.com and John Murray PE; EJ - john.murray@eijco.com*

This course will teach the important facts of AASHTO Bridge codes when applied to fabrication and cast products designed for highway loadings. At the conclusion of the course, the student will be better equipped to make informed specification decisions as to infrastructure access coverings, gratings, hatches, etc., with respect to proper, and current industry material and performance specifications.

**T - Semi-Integral Abutments with Ultra High Performance Concrete Connections** – Intermediate

*By: Brenda Crudele & Ramiz Turan; NYSDOT - Brenda.crudele@dot.ny.gov; Ramiz.turan@dot.ny.gov*

Leaking deck joints have been a major cause of bridge deterioration and reduced service life, especially where roadway drainage carrying deicing chemicals can spill onto bridge elements below. One solution is to use semi-integral abutment details. This presentation will provide details and design approaches that are being used for semi-integral abutments in New York State to address deck joint challenges in their ABC bridges. One of the case studies includes an innovative use of ultra-high-performance concrete as part of the semi-integral abutments.

**BUILDINGS**

**T - Innovative Asset Ratings** – Intermediate

*By: Chris Baker, AIA, PE, BEMP, BEAP, LEED AP; The Weidt Group - chrisb@twgi.com*

Transparent building energy ratings enable the market to assess energy performance and identify low-energy-cost buildings, creating demand for efficient buildings. While operational rating methods such as ENERGY STAR® have been around for over 10 years, Asset Ratings are early in the adoption phases. Asset Rating involves energy simulation to compare a building’s projected energy efficiency to another, holding operational variables constant. The building’s physical design components are rated much like an automobile’s MPG. Calculating accurate Asset Ratings of existing buildings can be expensive & time consuming with exhaustive data collection, while simpler methods can lead to inconsistent results. A recent national pilot funded innovative methodologies to overcome these issues for Asset Rating. This presentation describes the research and development of one recently launched method. The research validated an online and user-friendly interface for energy simulation to build calibrated energy models that not only allows a peer comparison at the national level but also provides actionable results at the end-use level for each building. Attendees will see how this online asset rating application shows promise as a reliable, scalable, and cost effective method, including regional systems under development in different states.

**T - Changes in IAQ When Operating an Ultra-Violet Corona Discharge (UVCD) Air Cleaner in a Classroom Air Supply** – Intermediate

*By: Todd Crawford; NYSDOH - Todd.crawford@health.ny.gov*

Manufacturers and their vendors claim that UVCD air cleaners save energy costs by removing contaminants in indoor air without producing ozone or air contamination byproducts, thus reducing the need to outside air ventilation to dilute and exhaust contaminants. This seminar describes the procedures and testing NYSDOH by used to observe changes in IAQ when an UVCD air cleaner was operating inside the unit ventilator of a vacant high school classroom. Real time, datalogged and time-weighted average measurements measured the changes in IAQ under different ventilation configurations. The testing showed that operating the UVCD air cleaner in the classroom ventilator degraded the IAQ by generating ozone, which then reacted rapidly with VOCs to create bursts of ultrafine particles. The impact on IAQ resulted in a NYSED directive to remove the UVCD air cleaners from all schools in New York.
Engineering Approach to Disaster Resiliency – Intermediate
By: Joseph Englot; HNTB Corporation - jenglot@hntb.com
Mr. Englot will present engineering approaches to disaster resiliency (recovery) including information on the NIST disaster resilience framework for US communities and new priorities for standards development that will help communities to better prevent natural and human-caused hazards from becoming disasters.

CHEMICAL

The Future of Gas Analytics – Intermediate
By: Shannon Caldwell; Mettler Toledo Process Analytics - Shannon.caldwell@mt.com
Tunable Diode Laser gas measurement: theory and practical application in industry

Fundamentals of Compact Heat Exchangers – Intermediate
By: Mark Thiel; Energy Control Products - mrthiel@nycap.rr.com
A review of the fundamental design basics of compact heat exchangers including sizing and selection basics, how the technology works, and application examples compared to convention plate and frame or shell and tube designs

Modeling the Hydraulics of a Gas-Solids Riser for Applications in Chemical Reactors - Advanced
By: John Paccione, Ch.E., Ph.D., PE; UAlbany, School of Public Health - John.paccione@health.ny.gov
The petrochemical industry employs riser reactors for a variety of chemical conversions such as catalyst cracking of oil and other economically important processes. The modeling of the fluid particle component of the riser is an essential component for predicting the conversion efficiency of a riser reactor. In this work, a detailed hydrodynamic analysis of the riser will be made. It will include a method of analysis that provides a means of predicting the solids circulation rate in the riser so that the process can be controlled and optimized to obtain the desired reaction efficiency.

Combustible Dust Explosion Protection – Introductory - Intermediate
By: Bob Tedquist; Fike - Bob.tedquist@fike.com
This seminar will review Combustible Basics, NFPA codes concerning combustible dust, past combustible dust incidents, Combustible dust testing, combustible dust mitigation techniques.
Asset owners and engineers throughout the U.S. and the world are in search of cost-effective and environmentally friendly solutions that serve infrastructure issues. Geopolymers have long been known to provide enhanced physical performance to traditional cementitious binders with the added advantages of significantly reduced greenhouse emissions and superior chemical resistance. However, they have not generally been contractor-friendly. This presentation will review a geopolymer mortar system that has been used in the U.S. since 2011 and is becoming a preferred solution for larger diameter trenchless pipe and culvert repair and rehabilitation.

The mobile laser scanner application is an emerging and highly functional technology that accurately captures 3D data from any moving platform. Mobile mapping allows users the ability to capture dense point cloud information from a moving platform with a high level of precision. On the open road, it can travel at normal operating speeds with no impedance to traffic. On the water, it can collect shoreline and under clearance information for any structure.

This presentation will inform attendees of the alternative methods to water system shutdown during the normal and emergency repair or replacement of common water works items.

The Uretek Injection Process utilizes expanding polymer grouts for a variety of Civil Engineering applications, including slabjacking, void filing, infiltration cutoff, infrastructure repair, and ground improvement.

To increase the reliability of the bulk electric system, and due to media reports concerning the safety of key transmission stations from physical attacks, NERC has developed a new physical security standard, CIP-014-01. We'll provide an overview of the standard and then discuss how substation civil and electrical engineers, working with transmission owner’s planning and operations staff, can cost-effectively design for increased physical security of vital assets. Topics will include station layout, fencing and screening, vehicular barriers, transformer firewalls as protection against projectiles, and non-traditional security measures.
**F - Civil and Mechanical Engineering Aspects of the Green Island Hydroelectric Project** - *Intermediate*

*By: James Besha, Sr., PE; Albany Engineering Corporation - jim@albanyengineering.com*

The seminar will discuss civil and mechanical design aspects for the Green Island Hydroelectric Project involving redevelopment of the original 6 MW facility built in 1922 by Henry Ford & Son. The redeveloped project will be a 48 MW facility at the existing site at the Federal Dam/Lock on the Hudson River.

**F - 21st Century Solutions for 19th Century Sewers** - *Intermediate*

*By: Tom Perry; Multi Utilities Ventures - Tomperry4@comcast.net*

We will discuss concrete additives for prevention of MIC and centrifugally cast concrete for the rehabilitation of storm and sanitary sewer mains. Centrifugally Cast Concrete Pipe--is a cost-effective, NO DIG solution for structural lining of storm culverts and sanitary sewer mains using a spin caster. The precisely placed and compacted concrete liner is applied at the best design thickness for the diameter and conditions. This system is typically used to rehabilitate corrugated metal, brick, steel and reinforced concrete storm and sanitary sewer mains 30”- 144” in diameter.

**F - Carbon Reduction: The New Design Parameter** - *Intermediate*

*By: James D’Aloisio, PE, LEED AP; Klepper, Hahn & Hyatt - jad@khhpc.com*

Engineers now have a new design parameter to take into account in their work: Reduction of atmospheric emissions of carbon dioxide and other greenhouse gases. We will quantify the magnitude of emissions from human activities, including manufacturing, transportation, construction, and energy usage, and explore mitigation strategies.

**F - Concrete Ideas for Reducing Carbon Emissions** - *Intermediate*

*By: James D’Aloisio, PE, LEED AP; Klepper, Hahn & Hyatt - jad@khhpc.com*

Portland cement, used in concrete, is responsible for a large amount of anthropogenic global warming gases emitted into the atmosphere. We will explore various strategies, from commonplace to cutting edge and experimental, to reduce concrete’s carbon dioxide emissions without compromising the performance of structures.

**F - Utility Coordination & Subsurface Utility Engineering** – *Introductory to Advanced*

*By: George Marleau; Cardno - george.marleau@cardno.com & Laura Clark; Cardno – laura.clark@cardno.com*

Utility Coordination and Subsurface Utility Engineering for Transportation Projects and other Urban Construction Projects
CONCRETE

**F - SIK608 Repair and Protection of Parking Garages – Intermediate**

**By: David Mastay; Sika Corporation - Mastay.david@us.sika.com**

This seminar covers the accelerators of corrosion found in parking garages and identifies proper repair techniques for cracks, joints and concrete spalls. Additionally options for protection of the structure are discussed.

**F - Precast Concrete in Extreme Environments – Introductory to Advanced**

**By: Claude Goguen; NPCA – cgoguen@precast.org**

High winds, extreme heat, subzero temperatures, highly reactive environments, ultra high strength, top secret security clearance; all extreme environments in their own respect, and all neutralized by a precast concrete solution. This presentation will highlight projects in which precast concrete provided the best solution to protect people, property and prize possessions in extreme environments. The case studies will explore the combination of complex engineering and manufacturing that went into the making of these unique precast solutions. We will also explore the concept of precast concrete resiliency. With Mother Nature’s wrath coupled with the risk of man-made disasters, communities must build with recovery in mind.

**F - Concrete Best Practices: Concrete Maturity in Cold Weather – Intermediate**

**By: Steve Moore; Atlantic Testing Laboratories; smoore@atlantictesting.com**

Concrete is the Bread of the Construction Industry. Includes Five Essentials of Quality Concrete in Concrete in Cold Temperatures based on ACI 306.1-90 & ACI 306R-10 plus Concrete Maturity by ASTM C1074.

**F - Super-Slab® for Rapid Concrete Pavement Repair – Introductory-Advanced**

**By: Dan E. Moellman, PE; The Fort Miller Co., Inc. - dmoellman@fmgroup.com, danmoellman@gmail.com**

The seminar will discuss the innovative slab-on-grade Super-Slab® System for using fully-cured precast concrete slabs for overnight repair of highway “trouble spots” that are too busy to take out of service. Super-Slab® panels are precisely cast as planar slabs for intermittent patch repairs or as a combination of planar and non-planar slabs for continuous replacement of complex geometry pavement making it possible to replace entire mainlines, ramps, intersections, crosswalks, utility cuts, bridge approach slabs, and airport runways in a series of 8-hour or less overnight work windows. In 90+ projects to date, over 17,000 slabs or 33 lane-miles of Super-Slab® System have been successfully installed in 15 states and 2 Canadian provinces.

**F - Concrete Best Practices: Unique Technologies – Intermediate**

**By: Ron Vaughn; Eastern NY ACI - enyaci@aol.com**

One-stop-shop for information about concrete technologies including: Pervious, Cellular, Lightweight, Shotcrete, ICF’s and Tilt-Up. And overview of each of these concretes will be presented!
ELECTRICAL

- Avoiding Flaws in Electrical Specifications – Intermediate
By: Louie Powell; Lpowell1@nycap.rr.com
Preparation of a specification is an essential part of every electrical project. This presentation will address the general topic of errors in specifications, and will focus specifically on less obvious errors that can have disastrous consequences on the eventual success or failure of the project.

- The Future of Electricity Markets – Intermediate
By: Rana Mukerji; NYISO - rmukerji@nyiso.com
As more intermittent, renewable resources and energy storage enter the mix, and consumers get sophisticated about tailoring their energy use – the design of electricity markets and grid operations will change in fundamental ways. This session explores coming changes in grid operations and market design.

- Electrical and Control Engineering Aspects of the Green Island Hydroelectric Project – Intermediate
By: James Besha, Sr., PE; Albany Engineering Corporation - jim@albanyengineering.com
This seminar will discuss the electrical and control design aspects for the Green Island Hydroelectric Project involving redevelopment of the original 6 MW facility built in 1922 by Henry Ford & Son. The redeveloped project will be a 48 MW facility at the existing site at the Federal Dam/Lock on the Hudson River.

- Grounding and Overvoltage Requirements for Distributed Solar and Wind Generators – Intermediate
By: Reigh Walling; Walling Energy Systems Consulting - rwalling@wesconsult.com
This seminar describes overvoltage issues attributed to the interconnection of distributed renewable generation to the electric grid. Avoidance and mitigation of these overvoltages are discussed, with particular focus on the system grounding requirements for distributed generation interconnection.

By: Lou Tomaino; LouTomaino@aol.com or l.tomaino@ieee.org
This presentation will discuss equipment acceptance tests from the point of view of a manufacturer or vendor. The intent is to be general but most of the examples will involve electrical machines.
**ENERGY**

**F - Net Energy Optimization Workshop for Real Time Results - Intermediate**

*By: Chris Baker, AIA, PE, BEMP, BEAP, LEED AP; The Weidt Group - chrisb@twgi.com*

This interactive workshop will provide attendees with the valuable experience of analyzing and driving building energy performance—to get results in real time. We will facilitate the workshop with the participants acting as design team members from all disciplines, working with real building characteristics and an actual building design. Using a live, online tool that assists with a cost benefit discussion, the participants will assemble "bundles" of selected energy efficiency measures to play out what-if scenarios, discussing the merits and challenges of each "bundle." This session makes the learning experience real and relies on the "do" approach verses the "hear" and/or "read" approaches. The interactive workshop setting, with live tools and facilitation, will demonstrate an effective method for guiding decision-making. The actions in evaluating the energy options and making informed decisions lead to an engaging learning experience that will translate directly to participants’ work with their clients.

**F - Ripe for Retrofit or Re-commissioning - Intermediate**

*By: Rob Morrow; The Weidt Group - robm@twgi.com*

Targeting retrofits or re-commissioning to the buildings with the greatest potential can double the energy savings for a given expenditure. But determining which buildings have the greatest potential is not as simple as just picking the building with the greatest energy use unless they have similar uses. We will discuss tools and techniques available to identify which buildings have the greatest potential for savings including benchmarking, and a new web-based tool from New Building Institute, the Deep Retrofit Scoping Tool.

**F - Overview of Lighting Energy Efficiency – Introductory**

*By: Craig Cantello; Edison Tech Center - president@edisontechcenter.org*

An overview of the energy efficiency of various lighting systems is presented, with the advantages and disadvantages of each system discussed.

**ENVIRONMENTAL**

**T - Risk Assessment of Underground Vaults – Protecting Workers from common on-the-job hazards – Intermediate**

*By: Timothy J. McKernnan; EJ - tim.mckernan@ejco.com and John Murray PE; EJ - john.murray@ejco.com*

An informative presentation by our experienced technical professionals, which explores the safety hazards found in underground vaults, manholes and pump stations. This presentation will conduct a risk assessment of underground structures, identifying various hazards and the OSHA requirements for protecting workers from those hazards. Some of the OSHA topics covered are Fall Hazards, Confined Space Hazards and Lockout / Tagout.
T - Wastewater Treatment Systems – Introductory – Advanced
By: Tom Schendorf; Highland Tank & MFG - tschoendorf@highlandtank.com
Learn how oil/water separators help transportation or petroleum facilities comply with SPCC Plans and help them meet oil discharge limitations under the new NPDES Regulations for Storm Water Discharges. Learn about the NEW Technologies in Oil/Water Separators

T - Incidental Disturbance Assessment and Site Specific Variances – Intermediate
By: Cheyenne Dashnaw, Atlantic Testing Laboratories – cdashnaw@atlantictesting.com
The seminar will describe incidental disturbances and uncontrolled disturbances of asbestos-containing materials, and the methodologies for assessment and cleanup of such incidental disturbances. Applicable sections of NYSDOL Code Rule 56 (12 NYCRR Part 56) that pertain to the assessment and cleanup of incidental disturbances will be discussed, in addition to the petition process for a site-specific variance. Other information to be provided includes a brief synopsis of applicable federal and state asbestos regulations, categories of asbestos building materials, and proposed future revisions to NYSDOL Code Rule 56.

T - Compost BMPs in Green Infrastructure – Intermediate
By: Britt Faucette; Ph.D., CPESC, LEED AP Filtrexx - brittf@filtrexx.com
The seminar will cover urban storm water runoff poses a substantial threat to receiving surface waters across North America. Green infrastructure, low impact development, green building ordinances, National Pollutant Discharge Elimination System (NPDES) storm water permit compliance, and Total Maximum Daily Load (TMDL) implementation strategies have become national priorities; however watershed professionals need more sustainable, low cost solutions to meet these goals and guidelines. Building on concepts of biomimicry, natural capital restoration, and ecosystem service enhancement, attendees will learn how compost-based storm water best management practices (BMPs) use natural processes to achieve high performance results in storm water volume reduction, pollution prevention, and biofiltration. Based on recent scientific research over 20 different BMPs are currently being utilized in green infrastructure and sustainable site development across the US. Attendees will learn how compost is being used in a variety of storm water management applications – including green infrastructure, how it performs relative to conventional practices, and why design and watershed professionals are choosing compost to meet their goals.

T - Site Level Analysis of Pollutant Load Reduction thru Implementation of Stormwater Management Practices - Intermediate
By: David M. Follansbee; NYSDEC - David.follansbee@dec.ny.gov
The use of onsite green infrastructure and stormwater management practices is becoming an increasing focus both at the State level by inclusion of such practices in SPDES permitting requirements, as well as, at the local level through planning of environmental impact mitigation. There are many tools available to help better understand and quantify the benefit of implementing onsite green infrastructure practices, however the vast majority of these planning tools are too complex, too data intensive, or limited to a much larger scale (e.g. watershed level, annual evaluation) to be beneficially used at the site level. This paper presents the development of a simple model that can be used as a decision tool to estimate the pollutant load reduction through implementation of stormwater management practices at the site level. This model incorporates an understanding of the practice size and the variation of annual rain events to better predict the pollutant load reduction achieved in order to direct the designer or municipal decision maker to select the stormwater management practice that will realize the maximum water quality improvement based on the specific site characteristics.
**F - High Performance HP Sanitary Sewer Solutions** – *Intermediate*

*By: Josh Kogan; Advanced Drainage Systems – josh.kogan@ads-pipe.com*

This seminar is an introduction to high performance sanitary and stormwater pipe. Also discussed high density polyethylene vs polypropylene, HP specifications, joints, connections, installation and testing and project examples.

**F - StormTech Stormwater Management** – *Intermediate*

*By: Rob Lemire; Advanced Drainage Systems - rlemire@ads-pipe.com*

This seminar will cover the how to design an effective subsurface storm water detention/infiltration system using HDPE and StormTech chambers. In particular how to design a system that functions hydraulically and structurally long-term meeting ASTM and AASHTO criteria. Isolate TSS and sediment so that it can be efficiently maintained or in the worst case when systems are not maintained how to build in safety factor so the system still performs hydraulically long-term.

**F - Getting Stormwater Permit and Submitting Reports to NYS DEC On-line** – *Advanced*

*By: Robert Wither; NYS DEC - Robert.wither@dec.ny.gov and Erik Posner; NY DEC - erik.posner@dec.ny.gov*

NYS DEC has developed new on-line systems to process construction stormwater permit and other types of stormwater permits applications. A similar system has also been developed with federal EPA to submit State Pollution Discharge Elimination System compliance data using electronic Discharge Monitoring Reports. This presentation will inform the audience with information on how to conduct business with the New York State Department of Environmental Conservation over the Internet for permits and compliance reporting.

**F - Sustainability as *Envisioned* by ASCE: Maximizing Successes and Minimizing Pitfalls** - *Intermediate*

*By: Ashraf Ghaly; Union College - ghalya@union.edu*

*Envision* is the sustainability rating system that ASCE has developed to rate infrastructure facilities. The rating speaks to the triple bottom line of social, economic, and environmental goals. Existing rating systems such as LEED and Greenroads are sector-specific. A general system that covers all aspects of infrastructure does not exist, and *Envision* was designed to fill this gap. This presentation will offer a general overview of the system and show how to maximize its success and minimize pitfalls that hampered other systems.

**F - Sustainable Development & Hot-Dip Galvanizing** – *Introductory to Advanced*

*By: Frank Gerace; Hubbell Galvanizing - geracfp@whyrust.com*

This seminar objectively examines sustainability. It also compares the use of Hot Dipped Galvanized Steel to painted steel. Finally it objectively examines the sustainability of steel as a building material compared to other materials used in construction.
ETHICS

- Ethical Responsibility and Legal Liability in Engineering Design Resulting from Failure to Predict Natural Disasters - Introductory
By: Ashraff Ghaly; Union College - ghalya@union.edu
Natural disasters such as earthquakes, floods, tornados, and hurricanes are occurrences that cannot be stopped. To minimize the loss of life and damage to property, weather forecasters use many tools to predict the probability of such events to evacuate people out of harm’s way. Predicting the exact time, location, and intensity of an earthquake, for example, is impossible. In 2012, Italian scientists were convicted of manslaughter for failing to predict the 2009 L’Aquila (Italy) earthquake. Could engineers be held liable for failure to incorporate natural disasters into their design?

MECHANICAL

- Low Ambient Heating with Variable Refrigerant Flow Systems – Intermediate
By: Zak Koch; Mitsubishi Electric – zkoch@hvac.mea.com
Variable Refrigerant Flow Heat Pump systems carry the stigma of the old heat pump systems in the northeast. Even though VRF systems do heat tremendously better than traditional heat pumps, they still derate due to low ambient conditions. This derate can be accounted for with several different system design methods. This presentation will discuss how to apply a VRF system to account for low ambient heating conditions.

- Venting on Demand – Intermediate to Advanced
By: Rob Kral; ENERVEX, INC - robertk@enervex.com
An overview of mechanical venting systems and the importance of discussing them in the initial building design stage with engineers and architects. The presentation will cover mechanical venting for boiler and multi-story applications. Also, we will go into our new heat recovery unit.

- Control Valve Application in High Rise Buildings – Intermediate
By: Scott A. Rager; SAR Sales - scott@sarsales.com
Application and selection of Automatic Hydraulic Control Valves for pressure reduction, relief, pump suction control, level control and automatic breach valves.

*By: Khaled A. Yousef, PE, CEM, CDMS, LEEDTM AP, GBE; Pyramid Energy Engineering Services, PLLC (Pyramid EES) - Khaled.A.Yousef@PyramidEES.com*

This seminar offers an introduction to properly sized advanced (or modern) two-stage gasification HELE (High-Efficiency, Low-Emission) wood-pellet based biomass boiler heating systems. It shares illustrations of major system components from several manufacturers and introductory examples from local NYS projects. It also shares important design, sizing, commissioning and Measurement and Verification (M&V) concepts. The seminar then provides an introduction to the Renewable Heat NY Governor Initiative (RHNY), a long-term commitment to help the high-efficiency and low-emission biomass heating industry reach scale. Presents a brief discussion of NYSERDA’s history for biomass support, RHNY program rules, efficiency targets, thermal energy storage/buffering, solid fuel storage, delivery and conveyance options, the importance of proper system sizing, many other guidelines, and concludes with a brief emissions mention.

**T - Performance-Based Design Alternative Under Fire Code of New York State - Intermediate**

*By: David Drake, PE; M+W Group - David.Drake@mwgroup.net*

Fire Code of New York State (FCNYS) allows for Performance-based Design Alternative ‘as an alternative to compliance with other requirements’ in the FCNYS. The specifics in the codes can sometimes thwart the best implementation of a system; however, the code allows for approval of a properly-documented engineered solution. FCNYS has an 18-point outline of requirements to document the design alternative for approval. This seminar presents recent learning’s from working with our local code officials, documenting our design alternative to their satisfaction, and receiving approval.

**Other/Misc. Tracks**

**T - Three Dimensional Soil Stabilization – Intermediate**

*By: Peter M. Hanrahan, CPESC; E J Prescott, Inc - pete.hanrahan@ejprescott.com*

This workshop will explore the development of three dimensional soil stabilization technology and its applications in civil engineering and landscape design. Common uses include porous paving, slope stabilization, living retaining walls, construction entrances, low water crossings and boat landings.

**T - Maximizing Sustainable Solutions with Masonry – Intermediate**

*By: Keith Lashway, PE; International Masonry Institute – klashway@imiweb.org*

There is no single road to sustainability. Sustainability is maximized when all building systems are closely linked together and integrated design solutions identify and maximize the benefits of a building’s envelope, including interior vertical and horizontal components, on its infrastructure. This seminar will show how masonry systems can provide direct and recognizable sustainable outcomes including meeting LEED guidelines for improving energy efficiency, addressing indoor air quality, and maintaining environmental stewardship.
F - The 7 Deadliest Communication Mistakes Engineers Make Every Day that Undermine Effectiveness – NO PDH
By: Skip Weisman; Weisman Success Resources, Inc. - Skip@WorkplaceCommunicationExpert.com
This interactive, highly engaging and entertaining presentation exposes seminar attendees to the biggest communication mistakes that waste time and cause mis-understandings between engineers and their clients, teammates, bosses and other project stakeholders. Overcoming these communication mistakes will make engineers significantly more effective and efficient in delivering their value.

F - Presentation Mastery – NO PDH
By: Leslie English; Dale Carnegie of CNY – Leslie_english@dalecarnegie.com
Having worked with numerous engineering companies, we have learned that engineers are often called upon to present information to new or existing customers as well as to internal stake holders. Whether you are presenting to a small group or a room full of people, you need to know how to connect with your audience and present your information in a clear and concise way. In this program we will discuss tools and techniques that enable the presenter to relate to their audience, share information effectively and sell their ideas in a compelling way.

STRUCTURAL/Buildings

T - Understanding ADA Specifications and Their Application - Intermediate
By: Timothy J. McKernnan; EJ - tim.mckernan@ejco.com and John Murray PE; EJ - john.murray@ejco.com
This course will teach the important facts of ADA Standards when applied to fabricated and cast iron access products. At the conclusion of the course, the student will be better equipped to make informed specification decisions as to infrastructure access coverings, gratings, hatches, etc., as they apply to the ADA Standard.

T - Building Construction Site Safety – Intermediate
By: James B. Dall, PE; DASNY/RPI - jdall@dasny.org
This seminar will cover common safety concerns encountered during construction phase of various building projects.

F - An Introduction To The Engineering of Entertainment Industry Structures – Introductory
By: William B. Gorlin, PE, SE, SECB and Denis Iserovich, PE - BGorlin@MGMcLaren.com; DIserovich@MGMcLaren.com
This seminar will introduce engineering of structures for the entertainment industry, including performance facilities, temporary outdoor event structures, entertainment rigging, moving architectural elements and show action equipment. Case studies will be presented that demonstrate common entertainment technologies and solutions to design problems. Design of temporary outdoor structures will be discussed, including the relevant industry standards and the new provisions in the New York City Building Code.

F - Restoration of the Old Berkshire Athenaeum Building now the Pittsfield Probate Courthouse – Intermediate
By: Michael Mucci; Allegrone Companies - mcmucci@allegrone.com
Historical façade restoration focusing on masonry and structural elements of a High Victorian Gothic building. Dismantled over 1,600 grey schist wall stones and intricately detailed brownstones by uniquely numbering and identifying each stone’s location on the building. A new cast-in-place concrete backup wall was constructed in lifts as each stone was re-laid in its original location. As told by Allegrone, which acted as both the GC & Mason Contractor, for this 2-year project that will be completed in Spring 2015.
F - Drilling Platform at Cherokee Dam – Intermediate
By: David MacGregor; Ryan Biggs Clark Davis; dmacgregor@ryanbiggs.com
This seminar will discuss the design and construction of the 412-foot long drilling platform needed to install rock anchors through the face of the 175 foot tall concrete dam.

F - Efficient Designs with Voided Slabs – Intermediate
By: Michael A. Russillo; Cobiax USA Inc. - mrussillo@cobiaxusa.com
The concept and implementation of voided slabs will be discussed along with structural design considerations, architectural implications and installation descriptions. Various examples of recent projects in the US will be presented.

F - Designing with Glulam – Intermediate to Advanced
By: Rik Vandermeulen; Unalam - rvandermeulen@unalam.com
An overview of glulam as a structural material including specifying glulam and engineering glulam structures.

TRANSPORTATION

T - Moving Forward with High Speed Rail on the Empire Corridor – Intermediate
By: David Chan; NYSDOT and Wes Coates; HNTB - GDottino@hntb.com
Presentation will provide an overview of more than 1,000 statewide public hearing comments received on the Draft Environmental Impact Statement, an overview of the alternatives and the selection of the preferred alternative. The presentation will also discuss the many supporting rail projects across NYS already underway.

T - NY Route 5 Comprehensive Pedestrian Safety Study: A Corridor Perspective – Intermediate
By: Wendy Holsberger; Creighton Manning Engineering - wholsberger@cmellp.com
The New York State Department of Transportation and the Governor’s Traffic Safety Committee initiated a study of pedestrian safety along NY Route 5. The study encompassed approximately 15.4 miles and included five communities; Cities of Schenectady and Albany, Towns of Niskayuna and Colonie, and the Village of Colonie. The study focused on an engineering assessment of existing infrastructure related to pedestrians and an analysis of pedestrian related accidents, which resulted in planning level recommendations for improving the safety in the corridor. The presentation will look at the many challenges faced within the corridor and throughout the process as well as outline the study area, process, “Three E’s” approach, analysis, and findings.

T - Concrete Best Practices: Placing & Finishing - Intermediate
By: Greg Novitzki, PE - NYCMA VP - gnovitzki@nyconcrete.com
How do we buy more durable concrete and how do we construct a durable surface in this placing and finishing program. Topics like materials, mix design and flexural / compressive strength, air entrainment, w/c ratio, flatness & levelness, and many more items will be covered.