

*Education Sessions and Special Events presented by WOC Education Partners –  
for additional information see contact information included for each organization*

**QUESTIONS ABOUT the WOC EDUCATION PROGRAM? Email [seminars@worldofconcrete.com](mailto:seminars@worldofconcrete.com)  
For Additional Session Descriptions, go to [www.worldofconcrete.com](http://www.worldofconcrete.com) and click on Education Tab**

### **Pre-Lift Inspections: Safe Use & Connections of Rigging**

*Presented by All Material Handling.*

**Course Code:** AMHWE

**Date/Time:** Wed, Feb 5 • 9:00 am – 11:00 am

**Location:** LVCC North Hall, Room N220



**NEW for WOC 2020!** What things could we be missing in our pre-lift inspections or planning that could cost dearly on the bottom line, but also change lives forever? Risk Management is about getting people home safely every night. The concrete industry may not use as much rigging or use rigging as regularly as other trades, but it is important to know how to lift or secure loads effectively.

This session will reinforce the basics of inspections and safe use/connections of rigging. Discussions will address elements of a safety culture and how to get people to "buy in". Tip loading and angular loading will be addressed, with examples shown and minor calculations worked on as a group. Safe use of lever hoists and chain falls will also be covered, including overload protection and troubleshooting of common problems related to these products. Other important topics include UV degradation of synthetic slings and a deep dive into inspection of these products plus shackles, hooks and snatch blocks.

**Registration Fee: \$95; \$115 after 12/11/19**



Questions should be directed to Jim Canfield at [jcanfield6@yahoo.com](mailto:jcanfield6@yahoo.com).

### **Constructing Smooth Concrete Pavements: Tips, Techniques and State of the Art Equipment**

*Presented by American Concrete Pavement Association.*

**Course Code:** ACPAMO

**Date/Time:** Mon, Feb 3 • 1:00 pm – 4:30 pm

**Location:** LVCC North Hall, Room N219



This comprehensive training session will be presented by leading authorities on the topic of concrete pavement smoothness, equipment automation and instruments. Subject matter experts will discuss equipment, instruments and technologies being used to construct smooth concrete pavements. This training is a must for contractors of all sizes and experience levels. Project and construction managers, estimators, equipment managers and quality managers, as well as civil, geotechnical and pavement engineers will benefit from learning about the latest developments.

**This course includes four unique modules:**

- Avoiding the Rough Stuff—brief overview to gain better understanding of roughness, why smooth pavements are so important, and how a slipform paver works
- Smoothness Begins with the Concrete Mixture—creating a good slipform mixture and evaluating essential attributes of the concrete mixture with new tests & technology
- Construction Factors a Contractor Must Consider—details for building smooth pavements including set-up, operation, grade preparation, control-charting, etc.
- How Equipment & Instruments are Making Smooth Pavements Smoother—stringless paving, real-time smoothness equipment, lightweight profilers for measuring smoothness, evaluating profiles software, magnetic topography for dowel location, and other equipment used to achieve smoothness in concrete paving operations

**Registration Fee: \$200**

### **Constructing Proper Joint Design, Construction and Sealing**

*Presented by American Concrete Pavement Association.*

**Course Code:** ACPAWE

**Date/Time:** Wed, Feb 5 • 9:00 am – 12:00 pm

**Location:** LVCC North Hall, Room N219



This comprehensive training session covers critical information that any paving or flatwork contractor needs to know about properly choosing and placing joints for concrete pavements and slabs on grade. The need and purpose for each type of joint and the ACPA ten-step method to laying out the location of jointing will be explained. Example problems -- from poolside recreational pavements to complex intersection/interchanges -- will address options of joint patterns, sealing and filling in addition to guidelines for a sealant reservoir.

This training is a must for small and large contractors, project and construction managers, estimators and quality managers, as well as civil, geotechnical and pavement engineers. The training is also well-suited to agencies and owners, architects/designers, building managers, facilities managers, and others interested in knowing more about how to joint pavements to minimize risk of cracking and improve pavement performance.

#### **This course includes three unique modules:**

- Introduction to Joint Types and Layout—basics of designing proper contraction, control, construction and isolation/expansion joints and the ACPA ten-step method to lay out joints
- Joint Layout Example Problems—locate joints on example projects
- Joint Construction and Sealing/Filling—different construction methods and steps; joint sealing techniques and requirements for preformed, hot-pour and silicone sealants; the wipe test, a new quality control test

**Registration Fee: \$200**

### **Techniques to Repair/Preserve Concrete Pavements**

*Presented by American Concrete Pavement Association.*

**Course Code:** ACPATH

**Date/Time:** Thur, Feb 6 • 9:00 am – 12:00 pm

**Location:** LVCC North Hall, Room N219



**NEW for WOC 2020!** This interactive training session is presented by industry pavement preservation and repair experts. Full-depth and partial-depth repair/patching, dowel bar retrofit, cross-stitching and diamond grinding applications will be covered. This training is a must for anyone wanting to learn best practices to repair or preserve concrete pavements. Project and construction managers, estimators and quality managers as well as civil, geotechnical and pavement engineers will benefit from this session. This training is also well suited to agencies and owners, building managers and facilities managers interested in how to maintain concrete pavements.

#### **The training course features five modules:**

- Full-Depth and Partial-Depth Repairs—Best practices of patching:
  - Primary dimensioning considerations for full- and partial-depth repairs in terms of construction quality & performance
  - Recommended construction procedures
  - Advantages & disadvantages of different preparation methods and repair materials
  - Typical construction problems & appropriate solutions
  - Safety considerations in performing patching repairs
- Dowel Bar Retrofit and Cross-Stitching—Best practices of joint & crack strengthening methods:
  - Retrofitting dowel bars into joints & cross-stitching cracks
  - Recommended materials and mixtures used in repairs
  - Construction procedures, process steps, problems & solutions
  - Safety considerations
- Diamond Grinding—Equipment & techniques used in diamond grinding:

- Basics of how diamond grinding works
- Appropriate blade spacing dimensions and recommended construction procedures for conventional diamond grinding, diamond grooving & NGCS
- Typical construction problems and appropriate solutions
- Safety considerations in diamond grinding



Questions should be directed to Bill Davenport, [bdavenport@acpa.org](mailto:bdavenport@acpa.org) or 309-675-1280.

### **ASA Shotcrete Nozzleman Education**

*Presented by the American Shotcrete Association.*

**Course Code:** ASATU

**Date/Time:** Tues, Feb 4, 2020 • 8:00 am - 4:00 pm

**Location:** LVCC South Hall, Room S224



This course is designed for shotcrete nozzlemen, individuals involved with inspection of shotcrete, and anyone interested in learning about the principles and practices that must be known and understood for a nozzleman to satisfy his role in the quality application of the shotcrete process.

ASA Nozzleman Education Courses present an overview on placement technique, finishing, curing, testing, equipment and safety as it relates to the nozzleman and the shotcrete process. This course also helps to prepare individuals for participation in the ACI Nozzleman Certification program. ACI required work experience, written exam, performance exam and other program criteria will be discussed.

**Attendees will receive:** CP-60(15) Shotcrete Nozzleman Craftsman Workbook

**Please Note:**

- This course will satisfy the education course requirement for nozzlemen pursuing certification as an ACI Shotcrete Nozzleman
- **Attendance of this course alone will not result in certification as an ACI Shotcrete Nozzleman.**
- Attendees wishing to pursue ACI Certification need to arrange for a certification course with ASA (Wet Mix Exams are available for additional charges)
- Attendees will qualify for and receive a complimentary 1-year ASA Nozzleman Membership
- Lunch is not provided with this course. A one-hour break is scheduled for lunch.

**ASATU Fee: \$395; \$425 after 12/11/2019**

### **ASA Shotcrete Contractor Education**

*Presented by the American Shotcrete Association.*

**Course Code:** ASAWEX (course w/exam) | ASAWC (course only)

**Date:** Wed, Feb 5, 2020

**Times:** 8:00 am - 3:30 pm (course) • 3:30 pm - 5:00 pm (exam)

**Location:** LVCC South Hall, Room S224



The concrete construction industry needs knowledgeable shotcrete contractors! This session is intended for the existing shotcrete contractor pursuing ASA Shotcrete Contractor Qualification. However, concrete contractors interested in learning the details and requirements for quality shotcrete placement of structural concrete will find this session highly beneficial. Although a concrete contractor may be thoroughly experienced in form-and-pour concrete construction, shotcrete has fundamentally different equipment, material selection, crew responsibilities, application techniques, testing, curing and protection that need to be considered for producing high-quality and durable shotcrete. This course provides “best practices” for shotcrete contractors looking to grow and increase productivity and quality in their shotcrete applications.

This session provides a thorough knowledge of shotcrete placement for concrete construction, including logistics (site and project), environmental requirements, safety, crew requirements, shotcreting equipment, concrete

mixture design, QA/QC, surface preparation, formwork, reinforcements, embedments, placement, finishing, curing, and protection. Course presenter(s) with decades of experience in shotcrete construction will provide insight into details required for successful field shotcrete placement in this highly interactive session.

**Attendees will receive two reference documents:** ACI 506.2-13, Specification for Shotcrete and ACI 506R-16, Guide to Shotcrete

**Please Note:** Qualifying individuals pursuing ASA Contractor Qualification will need to take the 90-minute written exam immediately following the course.

**Registration Fee:** [ASAWEX] Course with exam: **\$650; \$725 after 12/11/2019**

**Registration Fee:** [ASAWEX] Course only: **\$550; \$625 after 12/11/2019**



Questions about courses or ASA nozzleman certification should be directed to Alice McComas at 248-848-3780 or [Alice.Mccomas@shotcrete.org](mailto:Alice.Mccomas@shotcrete.org).

### **How to Maintain Polished Concrete with Composite Resin Abrasive Pads**

*Presented by Ameripolish, Inc.*

**Course Code:** AMPMO

**Date/Time:** Mon, Feb 3 • 10:30 am - 12:00 pm

**Location:** LVCC North Hall, Room N222



What is the best way to maintain polished concrete? This is a question that many hear on a regular basis. So, what is the right method? Is there one method proven to be superior? In this session participants will explore field testing reviews and compare traditional DIP (Diamond Impregnated Pads) to a newer floor maintenance system referred to as “Composite Resin Abrasives” or CRA. Discussions will address the limitations of polished concrete maintenance as well as common problems and solutions that often occur on the job.

Presented by James McArdle and Greg Cabot with Ameripolish.

#### **Course participants will learn:**

- Differences between composite resin abrasive pad technology and traditional floor maintenance methods
- How to spot fix a floor with an etch (pickle isle scenario)
- How to rejuvenate a floor with an automatic-scrubber or swing machine
- How to identify what type of pad to use on any floor

**Registration Fee:** \$55; \$65 after 12/11/19



Questions should be directed to Greg Cabot at 479-757-9515 or [gcabot@ameripolish.com](mailto:gcabot@ameripolish.com).

### **Breakfast with the Experts at World of Concrete**

*Presented by BASF Corporation.*

**Course Codes:** TUBE1-2, WEBE1-2, THBE1-2

**Dates:** Tues - Thur, Feb 4-6

**Time [1]:** 6:45 am - 7:45 am • **Time [2]:** 8:15 am - 9:15 am

**Location:** LVCC North Hall, Room N107



Early risers will find answers to their toughest concrete questions when concrete industry experts take questions in an intimate and open setting – choose from two start times, 6:45 am or 8:15 am. Hot breakfast is included.

Sponsored by BASF Corporation, representing the Master Builders Solutions brand, Breakfast with the Experts provides attendees peer-to-peer opportunities each show morning to pose technical, or not so technical, questions to leading concrete industry experts. A panel will answer questions on new concrete construction, concrete repair, expansion joint systems and maintenance of concrete structures. Content provided in sessions will differ based upon attendee questions.

**NOTE:** To receive special savings see discounted package which includes all 3 mornings - course code TWTBE.

**Registration Fees:**

**Individual Breakfast: \$45; \$55 after 12/11/19**

- TUBE1, WEBE1, THBE1: 6:45 am - 7:45 am
- TUBE2, WEBE2, THBE2: 8:15 am - 9:15 am

**Discounted 3-Day Pass: \$115; \$135 after 12/11/19**

- TWTBE1: 6:45 am - 7:45 am
- TWTBE2: 8:15 am - 9:15 am



Questions about the breakfast sessions should be directed to [seminars@worldofconcrete.com](mailto:seminars@worldofconcrete.com).

**Extending Joint Spacing in Slabs-on-Ground**

*Presented by BASF Corporation.*

**Course Code:** BASTU

**Date/Time:** Tues, Feb 4 • 10:00 am – 12:00 pm

**Location:** LVCC South Hall, Room S230



**NEW for WOC 2020!** Contraction joints are typically needed in concrete slabs-on-ground to minimize random mid-panel cracking. Joint edge deterioration and corner cracking at joint intersections are problematic. Maintenance joints have been reported to account for approximately 80 percent of the problems with slabs. To minimize maintenance costs and reduce the downtime associated with joint repair in industrial slabs, engineers and owners are adopting procedures and material recommendations to reduce joints in concrete slabs-on-ground.

**Topics of Discussion:**

- Effects of concreting materials & construction practices on cracking
- Current industry recommendations for joint spacing
- Options for extending joint spacing & their differences
- Operational efficiencies achieved through use of low-shrinkage fiber-reinforced concretes

**Registration Fee: \$95**



Questions should be directed to Calvinia Fields at [calvinia.fields@basf.com](mailto:calvinia.fields@basf.com) or 216-839-7022.

**From Enforcer to Ally: Understanding the Psychology of Safety Management**

*Presented by Caterpillar Inc.*

**Course Code:** CATTU

**Date/Time:** Tues, Feb 4 • 9:00 am – 12:00 pm

**Location:** LVCC North Hall, Room N221



**NEW for WOC 2020!** This presentation will share how to overcome a “safety cop” persona, balancing leadership with collaboration to help participants become trusted safety advisors and create a more engaged safety culture.

There is an authoritarian to democratic spectrum of how safety is managed within organizations. Whether you wear the title of “safety” or not, how you interact with others in situations regarding establishing safety expectations, performing audits or assessments of work practices, or responding after an incident forms perception about your character. It starts with understanding the biological reflexes of reacting to stressful or challenging safety situations and then adopting cerebral, intellectual habits that result in more effective solutions.

**Registration Fee: \$105; \$125 after 12/11/19**

### **Foundations of Communication Workshop**

*Presented by Caterpillar Inc.*

**Course Code:** CATTH

**Date/Time:** Thur, Feb 6 • 8:00 am – 12:00 pm

**Location:** LVCC North Hall, Room N220



**NEW for WOC 2020!** This half-day workshop utilizes the ***Speak Up! Listen Up! and Recognize It!*** programs to provide participants with specific lessons on effective communication and recognition.

The ***Speak Up! and Listen Up!*** portion of the training will help employees learn: how to give and receive feedback; how to focus on the message, not the messenger; and how each employee is able to contribute to workplace safety when listening and responding to one another. While ***Speak Up!*** focuses on the do's and don'ts of giving important guidance, ***Listen Up!*** provides the essentials of receiving input and responsive listening.

The ***Recognize It!*** segment of the training focuses on strategies to reverse the all-too-common tendency to focus on the negative and level blame like pointing out what people might be doing wrong, rather than right. Learn to effectively give recognition that will help achieve increased productivity, proactive values, clearer accountabilities and expectations, plus better morale in a less inhibited environment.

**Registration Fee: \$150; \$175 after 12/11/19**



Questions should be directed to Justin Ganschow with Caterpillar Safety Services, at 309-675-1280 or [Ganschow\\_Justin\\_R@cat.com](mailto:Ganschow_Justin_R@cat.com).

### **Silica and Emerging Respiratory Hazards in Construction**

*Presented by CPWR – The Center for Construction Research & Training.*

**Course Code:** CPWRTU

**Date/Time:** Tues, Feb 4 • 3:30 pm – 5:00 pm

**Location:** LVCC North Hall, Room N230



**NEW for WOC 2020!** Many construction tasks can expose workers to respiratory hazards when the risk is not understood and controlled. During this session, CPWR will provide an update on the latest research, controls and resources available to help contractors comply with OSHA's silica standard and respond to emerging issues regarding nano-enabled construction materials including concrete. Contractors will be able to apply the information provided to protect the safety and health of their employees and improve their operations.

#### **Topics of discussion will include:**

- How to identify nano-enabled construction materials, understand the risks, and control exposures
- An overview of the latest research on silica controls
- Free resources to help compliance with key provisions in the silica standard

**Registration Fee: \$85**



Questions about this session should be directed to Eileen Betit at 301-495-8506 or [ebetit@cpwr.com](mailto:ebetit@cpwr.com).

### **Shotcrete Problems, Causes & How to Repair**

*Presented in Spanish by Colegio de Ingenieros Civiles de León A.C.*

**Course Code:** CICLWE

**Date/Time:** Wed, Feb 5 • 9:00 am – 1:00 pm

**Location:** LVCC North Hall, Room N230



College of Civil Engineers of de León brings an international instructor of shotcrete to teach how to identify the origin of the problems and causes in the application of shotcrete, both dry mix and wet mix, and how to repair them. Its' intended for shotcrete nozzleman and people related to inspection, quality control, application and finishing of shotcrete. The book ***Shotcrete Problems and Their Causes*** (written in Spanish) is included with the course registration fee.

Attendees will learn how to identify common problems of shotcrete—summarized in 5 main causes:

- Design • Planning • Materials (type of cement, mix design, quantity of materials) • Application & finishing
- During the service life of the concrete (and best options for repairing)

**Registration Fee: \$295**

### **Concreto Lanzado Problemas y sus Causas y Metodo de Reparacion**

El colegio de ingenieros civiles de león trae a uno de los mejores instructores internacionales de concreto lanzado a para impartir el curso con la finalidad de aprender a identificar el origen de los problemas y sus causas en el concreto lanzado, tanto vía seca como vía húmeda, y como repararlo, está dirigido a lanzadores de concreto y personas relacionadas con la inspección, control de calidad, aplicación, acabado del concreto lanzado.

En el curso se tratarán los orígenes de los problemas del concreto lanzado, como identificarlos y poder llegar a su causa raíz la cual se puede resumir en 5 causas principals:

- diseño • planeación • los materiales • colocación y acabado • durante la vida de servicio

**NOTA:** El libro *Problemas y sus Causas en el Concreto Lanzado* (en español) está incluido con tu inscripción.

**CICLWE Costo: \$295**



Preguntas sobre este curso deberán dirigirse al Ing. Raúl Bracamontes Jiménez, [rbracamontes@hydro-arch.com](mailto:rbracamontes@hydro-arch.com).

### **Concrete Polishing Luncheon & Forum**

*Presented by Concrete Construction and Concrete Surfaces magazines in cooperation with the ASCC Concrete Polishing Council.*

*Sponsored by Superabrasive.*

**Course Code:** TUCPL

**Date/Time:** Tues, Feb 4 • 11:30 am – 1:30 pm

**Location:** LVCC South Hall, Room S219



### **POLISHING WITH POWER TROWELS—*Can it replace planetary grinding equipment?***

Planetary grinders are the standard equipment used to create beautiful polished concrete floors. But recently, there's been a move to equip riding power trowels with diamond tools and use them to polish concrete floors, and for good reason—a power trowel can polish 5 times faster. But can a power trowel polish a concrete floor to the same level of refinement as a conventional grinder? Will polishing with trowels replace conventional polishing or does it simply produce a different kind of polished concrete floor and open different markets? Is the skill level of the polishers different for trowel polishing? Where should it not be used? Can trowels be used to polish overlays? And what happens to all the slurry produced? These questions and more will be answered by an expert panel.

#### **Luncheon Panelists:**

- Jessica Ledger-Kalen, Royale Concrete
- Ryan Klacking, Syncon, Inc.
- Shawn Halverson, Surfacing Solutions, Inc.
- Ben Wiese, Multiquip
- Neil Roach, Redimere Surface Solutions

**Registration Fee: \$95; \$125 after 12/11/19 (\$85 with purchase of Super Pass)**

### **Quality in Concrete Slabs Luncheon & Forum**

*Presented by Concrete Construction magazine in cooperation with the American Society of Concrete Contractors.*

*Sponsored by Multiquip, Somero Enterprises and Stego Industries.*

**Course Code:** WESOG

**Date/Time:** Wed, Feb 5 • 11:30 am – 1:30 pm

**Location:** LVCC South Hall, Room S219



### **ALTERNATIVE CONCRETE CURING METHODS: Hard-troweled versus decorative**

How a concrete slab is to be used can dictate how it is cured. There's not even an ASTM standard test to know if a concrete floor has been adequately cured. Do hard-troweled surfaces even need to be cured? What about industrial slabs that are to be polished? Slabs that are to receive moisture-sensitive flooring should only be cured with waterproof paper or plastic. Exterior concrete is typically sprayed with a monomolecular curing compound.

But what's the best way to cure decorative or colored concrete? In general, the curing methods that work best for decorative concrete, that is those that don't affect the surface appearance, don't follow ASTM or ACI requirements or guidelines. But if you cure decorative concrete with a curing compound will you end up with efflorescence? If you cure with a silicate densifier, is that effective?

At this luncheon, concrete floor and decorative concrete experts will compare and contrast current curing methods and products for hard-troweled floors versus those used for decorative concrete.

#### **Luncheon Panelists:**

- Clark Branum, Diamatic USA, chair ACI-ASCC Committee 310, Decorative Concrete
- Dave Hoyt, Curecrete, chair ACI Committee 310, Task Group on Curing
- Scott Tarr, North S.Tarr Concrete Consulting
- Bob Harris, Structural Services Inc. and Decorative Concrete Institute

**Registration Fee: \$95; \$125 after 12/11/19 (\$85 with purchase of Super Pass)**



Questions about the luncheons should be directed to Randall Nelson at [rnelson@hanleywood.com](mailto:rnelson@hanleywood.com).

### **Advanced Concrete Plants – Raising the Bar**

*Presented by Concrete Products Magazine. Sponsored by Command Alkon, Euclid Chemical, MCT Group, Sicoma, Sioux Corp, Stephens Mfg and Vince Hagan Co.*

**Course Code:** CPMMO

**Date/Time:** Mon, Feb 3 • 1:30 pm – 4:30 pm

**Location:** LVCC North Hall, Room N115



**NEW for WOC 2020!** Representatives of Ernst Enterprises of Georgia, Gage Brothers Concrete Products of South Dakota and Lauren Concrete of Texas will discuss permitting & building new plant capacity for major construction markets or regions.

In a program heavy on visual content and open dialog, discussions will explore:

- How can concrete operators tailor plant equipment for peak output?
- How can automation and Internet of Things (IoT) be leveraged to improve accident or injury prevention measures, maximize productivity and redefine quality control/assurance?
- What are the best strategies for creating a workplace and company culture that draw talent and foster loyalty?

Presenters will offer a wealth of insight on these and related subjects in a format suiting management, operations and front-line staff.

**Registration Fee: \$75**



Questions should be directed to Don Marsh at 312-720-9869 or [DMarsh@concreteproducts.com](mailto:DMarsh@concreteproducts.com).

**CSDA How to Prepare Estimates that Win You Jobs**

*Presented by the Concrete Sawing and Drilling Association.*

**Course Code:** CSDAMT

**Date/Time:** Mon - Tues, Feb 3 - 4 • 8:00 am – 5:00 pm

**Location:** LVCC North Hall, Room N220



This two-day course focuses on the practice of estimating sawing and drilling jobs: role of an estimator, different methods of estimating, compares estimates and actual costs, and how estimators affect the company's bottom line. Attendees will learn what the costs of a job are, estimating techniques, how to build an estimating model, verify the estimate, and read blueprints in addition to customer service skills.

**Attendee Requirements:** Attendees should have at least three years of experience in the concrete cutting industry and want to become estimators or be current estimators who want to broaden their knowledge in the field of estimating.

**NOTE:** Attendees need to bring a calculator & architect/engineering scale for the blueprint section of the course.

**Registration Fee: \$785**

**CSDA Concrete Polishing 101**

*Presented by the Concrete Sawing and Drilling Association.*

**Course Code:** CSDAPTW

**Date/Time:** Tues - Wed, Feb 4 - 5 • 8:00 am – 5:00 pm

**Location:** LVCC North Hall, Room N222



This two-day course will provide an overview of the concrete polishing industry and fundamentals of concrete, diamond tool technology, diamond selection process, practical applications and maintaining polished surfaces. Introduction into various types of concrete grinders, hand polishers, vacuum systems, burnishers and auto scrubbers including their applications and components; diamond selection and abrasive pad selection; how diamonds work with each type of grinder; training regarding set-up, operation and troubleshooting. Wet and dry concrete polishing will be discussed. Final two hours of the course will address estimating and bidding.

**IMPORTANT:** All attendees need to wear/bring sturdy work boots and safety glasses for the outdoor demo portions of the class. **Space is limited to 48 participants, so register early!**

**Registration Fee: \$785**

**CSDA GPR Methods & Theory**

*Presented by the Concrete Sawing and Drilling Association.*

**Course Code:** CSDATH

**Date/Time:** Thur, Feb 6 • 8:00 am – 5:00 pm

**Location:** LVCC North Hall, N222



This course covers concrete investigation basics, methods and theory. Attendees will be taught basic GPR theory, proper procedures on GPR scanning, industry standards on marking out concrete, and limitations of GPR. Case studies from contractors will be presented. This course is geared towards new GPR technicians, company owners looking to add GPR as a service, architects, engineers, general contractors and anyone looking to understand how GPR should properly be used in any job environment. This session is supported by four of the largest GPR manufacturers in the world: GSSI, Hilti, Proceq and Sensors & Software.

**NOTE:** This is an introductory course – not a certification. **Space is limited to 48 participants, so register early!**

**Registration Fee: \$450**



Questions about CSDA programs should be directed to Erin O'Brien at 727-577-5004 or [erin@cdda.org](mailto:erin@cdda.org).

**Keys to Successful Extended Joint Floor Slabs – From Design to Construction**

*Presented by CTS Cement Manufacturing in collaboration with Metro Concrete Works.*

**Course Code:** CTSTH

**Date/Time:** Thur, Feb 6 • 10:30 am – 12:00 pm

**Location:** LVCC South Hall, Room S225



**NEW for WOC 2020!** As demand for joint-less floor slabs continues to grow, design and construction professionals seek solutions that provide optimum performance, design flexibility and ease of constructability. This session provides insight into an integrated approach to floor slab design that combines

- high-performance materials,
- flexibility in reinforcement options and slab thickness,
- versatility in panel pour sequencing,
- ease of production and delivery, and
- improved construction efficiencies

This advanced method in slab design ensuring maximum performance and value in extended joint slabs is presented by a panel of industry experts: Ken Vallens, President and CEO of CTS Cement Manufacturing; Ernie Perfetto, President of Metro Concrete Works; and Chris Tull, PE, Owner of CRT Concrete Consulting.

**Registration Fee: \$75; \$95 after 12/11/19**



Questions should be directed to Ernie Perfetto (647-233-6420, [ernie@metrocw.ca](mailto:ernie@metrocw.ca)), or Susan Foster-Goodman (714-614-7392, [SGoodman@CTScement.com](mailto:SGoodman@CTScement.com)).

**Self-Consolidating Concrete (SCC): Placement Issues & Applications**

*Presented by The Euclid Chemical Company.*

**Course Code:** ECCMO

**Date/Time:** Mon, Feb 3 • 2:00 pm - 4:00 pm

**Location:** LVCC North Hall, Room N228



**EUCLID CHEMICAL**

This session will cover raw materials, quality control and aspects of mix design, concrete rheology and admixtures. Expectations, appearance, finish and placement conditions will also be addressed. Different needs for Ready Mix and Precast will be reviewed through specific projects and applications, including the use of integral color for precast SCC.

**Additional topics of discussion:**

- Variables to consider that affect SCC placement
- How altering mix designs will minimize effects of the variables
- How concrete placement and finish can improve with SCC
- SCC benefits illustrated through specific projects and applications

**Registration Fee: \$110; \$140 after 12/11/19**

**Design & Construct Enhanced Concrete Floors: Utility, Durability & Service Life**

*Presented by The Euclid Chemical Company.*

**Course Code:** ECCTH

**Date/Time:** Thur, Feb 6 • 11:00 am - 12:30 pm

**Location:** LVCC South Hall, Room S224



**EUCLID CHEMICAL**

***Get More from Your Concrete Floors!***

**NEW for WOC 2020!** Intended for engineers and contractors, this course addresses design and construction best practices to enhance and extend the long-term use, durability and service life of concrete floors.

**Topics of discussion:**

- Mix design
- Fiber reinforcement
- Engineering codes
- Floor placement
- Installing dry shakes
- Topical treatments

**Registration Fee: \$85**



Questions should be directed to Jennifer Crisman at [jcrisman@euclidchemical.com](mailto:jcrisman@euclidchemical.com).

**Grouting Earthquake Isolators – Key Performance Characteristics to Consider**

*Presented by Five Star Products.*

**Course Code:** FSPWE

**Date/Time:** Wed, Feb 5 • 10:00 am – 11:30 am



**NOTE: This course has been cancelled.**



Questions should be directed to Deborah O'Connor at [occonnord@fivestarproducts.com](mailto:occonnord@fivestarproducts.com).

**Testing Concrete Strength on Site: Methods & Applications**

*Presented by Giatec Scientific Inc.*

**Course Code:** GIAMO

**Date/Time:** Mon, Feb 3 • 2:00 pm – 3:30 pm

**Location:** LVCC North Hall, Room N230



**NEW for WOC 2020!** Concrete strength is one of the most important parameters specified by structural engineers in the design of concrete structures. Construction companies rely on achieving acceptable in-place strength values before initiating critical operations such as formwork removal and post-tensioning. Concrete strength development is greatly affected by ambient conditions; accurate monitoring and prediction is still a challenge especially in cold seasons.

In this presentation, various methods of testing concrete strength on site will be presented and discussed by Dr. Aali Alizadeh, professional engineer and adjunct professor with more than 15 years of academic and industrial experience in the research and development of novel cementitious materials, non-destructive concrete testing technologies and durability of concrete.

**Presentation includes:**

- How concrete develops strength
- Methods of in-place strength measurement
- Advantages & limitations of various testing methods
- Applications & combinations of methods

**Registration Fee: \$95**



Questions should be directed to Aali Alizadeh at [aali@giatec.ca](mailto:aali@giatec.ca) or 877-497-6278.

### **An ICF Primer for Concrete Contractors**

*Presented by Insulating Concrete Forms Manufacturers Association.*

**Course Code:** ICFWE

**Date/Time:** Wed, Feb 5 • 10:30 am - 12:00 pm

**Location:** LVCC North Hall, Room N115



**NEW for WOC 2020!** This interactive training course is designed for concrete contractors who are new to Insulated Concrete Forms (ICFs). An expert teacher will cover typical commercial ICF details including integration with other elements of the structure and the expected support from ICF suppliers. Topics of discussion will also address tips for general contractors, letting bids, selecting ICF brands, and maximizing chances of success on the first job i.e. whether to self-perform the install and/or how to select an ICF installation subcontractor.

**Registration Fee: \$90**



Questions should be directed to Andy Lennox with ICFMA, 705-928-3779 or [chair@icf-ma.org](mailto:chair@icf-ma.org).

### **ICRI Concrete Slab Moisture Testing Demonstration & Workshop**

*Presented by the International Concrete Repair Institute.*

**Course Code:** ICRITH

**Date/Time:** Thur, Feb 6 • 8:00 am – 11:00 am

**Location:** Back of South Hall, Aisle S13900



How you conduct moisture tests on and in a concrete sub-floor has great effect on the results you obtain. Learn how moisture tests need to be performed to comply with the current ASTM test methods, what factors affect the accuracy of moisture test results and what the measurements do and do not mean. Nervous about your upcoming ICRI moisture testing certification performance exam? This workshop provides you with a hands-on opportunity to practice and have your technique critiqued prior to your actual exam.

**CANCELLATION OF COURSE:** The ICRI Concrete Slab Moisture Testing Tier 2 Performance Exam (THRPE) must have a minimum of 8 registrants. If minimum attendance is not met, both the exam and the ICRITH Demonstration & Workshop will be canceled. **Notification will be made by December 21 and full registration fees will be refunded.**

**Registration Fee: \$210; \$260 after 12/11/19**

**ICRI Certification Candidates:** Individuals who want to register for Tier 2 Program without pre-approved previous hands-on concrete slab moisture testing experience may take this optional Concrete Slab Moisture Testing Demonstration & Workshop. Five ASTM tests will be demonstrated with opportunity for hands-on testing and training by ICRI instructors or judges. Participation in this session will waive the requirement of pre-approved previous hands-on slab moisture testing experience necessary for full certification performance exam (THRPE).

**SCHEDULE OF EVENTS** for ICRI Concrete Slab Moisture Testing Certification:

- Wed, 8 am–12 pm: 4-hour Review Seminar WE407, **Seminar Fee \$210; \$245 after 12/11/19**
- Wed, 2 pm–3 pm: Tier 1 Written Exam WECRT, **Exam Fee \$285; \$315 after 12/11/19**
- Thurs, 12 pm–5 pm: Tier 2 Performance Exam THRPE, **Exam Fee \$450; \$500 after 12/11/19**
  - *Select preferred 1-hour time slot; requires ICRI pre-approval*



For questions about the ICRI Moisture Testing Certification, please contact Steven Bruns PE, ICRI Certification Manager, **prior to registering** at 651-290-7461 or [stevenb@icri.org](mailto:stevenb@icri.org).

### **Understanding & Choosing Reliable Concrete Polishing Training & Certification**

*Presented by International Standards & Training Alliance.*

**Course Code:** INSTU

**Date/Time:** Tues, Feb 4 • 10:00 am – 11:30 am

**Location:** LVCC North Hall, Room N253



**NEW for WOC 2020!** Attendees who rely on professional concrete polishing (employers, end users, specifiers, installers, etc.) should be able to identify reliable concrete polishing training offerings and certifications. This session will address the standards necessary for reliable, non-proprietary, industry-endorsed concrete polishing

training and certifications. Case studies will depict the what and why of legitimate concrete polishing training and certifications plus successes and failures, so attendees are better equipped to evaluate value of existing programs.

**Attendees will learn:**

- Standards to look for in education providers
- How to evaluate an education program's structure, materials and practices
- Necessity of in-person and hands-on training evaluations
- Important differences between training and certifying

**Registration Fee: \$85**



Questions should be directed to John McGrath at [INSTALL@carpenters.org](mailto:INSTALL@carpenters.org) or 215-582-4108.

**Sustainability of Concrete Structures through Durability Enhancing Technologies**

*Presented by Kryton International, Inc.*

**Course Code:** KRYWE

**Date/Time:** Wed, Feb 5 • 10:00 am - 12:00 pm

**Location:** LVCC South Hall, Room S116



**NEW for WOC 2020!** Concrete structures can and should be built to outlast their design lives. Unfortunately, many concrete structures deteriorate and fail prematurely because of one or more physical and chemical processes. Simply making concrete "stronger" is not the answer. Through the development and use of innovative technologies, durability of concrete structures can be greatly enhanced, their design lives lengthened, and greater sustainability achieved.

**Topics of Discussion:**

- How destructive processes caused by water and waterborne chemicals in new or existing concrete can be prevented when employing reactive crystalline waterproofing technologies
- How erosion and abrasion can be mitigated by new technology in metallic admixtures
- Advantages/disadvantages of new and more conventional technologies

**Registration Fee: \$65; \$100 after 12/11/19**

**Real-Time Concrete Monitoring**

*Presented by Kryton International, Inc.*

**Course Code:** KRYTH

**Date/Time:** Thur, Feb 6 • 2:00 pm - 4:00 pm

**Location:** LVCC South Hall, S116



**NEW for WOC 2020!** This session will address how real-time concrete monitoring can reduce the timeline of construction projects by increasing planning accuracy. Discussions will dive into technical aspects of monitoring concrete and address calibrations and mix designs. The presentation will include a Scandinavian case study within concrete monitoring.

**Topics of Discussion:**

- Concrete monitoring technology and how it works
- Values and opportunities gained from real-time concrete monitoring
- How to implement concrete monitoring as part of a construction project

**Registration Fee: \$65; \$100 after 12/11/19**



Questions should be directed to Anya Perminova at 604-324-8280 or [marketing@kryton.com](mailto:marketing@kryton.com).

### **MCAA Silica Train-the-Trainer Course**

*Presented by Mason Contractors Association of America.*

**Course Code:** STTTU

**Date/Time:** Tues, Feb 4 • 9:00 am – 3:00 pm

**Location:** LVCC North Hall, Room N210



The MCAA's Silica Train-the-Trainer Course is a six-hour program that will train a key employee to train other employees to be a competent person with regard to the written exposure control plan. Certificates will be provided to those who complete the program.

**MCAA Member Registration Fee: \$350; Non-Member Fee: \$700**

### **MCAA Silica Train-the-Trainer Renewal**

*Presented by Mason Contractors Association of America.*

**Course Code:** STTRTH

**Date/Time:** Thur, Feb 6 • 1:00 pm – 3:30 pm

**Location:** LVCC North Hall, Room N209



**NEW for WOC 2020!** MCAA's Silica Train-the-Trainer Renewal course features new material to renew your Silica Trainer-the-Trainer certificate for an additional two years. This course is only for individuals who have completed MCAA's Silica Train-the-Trainer Course. Updated certificates will be provided to those who complete the program.

**MCAA Member Registration Fee: \$250; Non-Member Fee: \$500**

### **MCAA Wall Bracing Course**

*Presented by Mason Contractors Association of America.*

**Course Code:** WBPTH,

**Date/Time:** Thur, Feb 6 • 9:00 am - 12:00 pm

**Location:** LVCC North Hall, Room N215



The Masonry Wall Bracing Course has been developed to provide contractors with the know-how to confidently design and construct bracing for a variety of common masonry structures. This is an opportunity to save your company money by designing your own wall bracing rather than paying a structural engineer.

This course is intended to teach project managers, safety managers, foremen and any other responsible person to understand and implement the OSHA regulation on wall bracing, and the *Standard Practice for Bracing Masonry Walls Under Construction*. Completion of this course will allow your people to safely and efficiently design adequate masonry wall bracing.

**MCAA Member Registration Fee: \$225; Non-Member Fee: \$275**

**MCAA CANCELLATION POLICY:** Registrants of MCAA Education sessions or convention events will receive a full refund up to 30 days before event date. NO REFUNDS will be issued after January 2, 2020 without a specific medical condition that can be backed up with documentation. An MCAA administrative fee plus standard WOC cancellation fee will be applied to any cancelled MCAA educational session and/or event. Standard WOC cancellation policy and fee will be applied to all other cancelled registrations.



Questions about MCAA education sessions or convention events should be directed to MCAA at 800-536-2225. For more information, go to [www.masoncontractors.org](http://www.masoncontractors.org).

### **Employer's Crane Operator Evaluator Course**

*Presented by Overton Safety Training Inc.*

**Course Code:** OSTWE

**Date/Time:** Wed, Feb 5 • 1:00 pm – 4:00 pm

**Location:** LVCC North Hall, Room N220

**OVERTON**  
SAFETY TRAINING, INC.

**NEW for WOC 2020!** The final version of the Crane Rule (Federal OSHA 29CFR1926 Subpart CC) was issued and effective in November of 2018. This final version contained **significant** changes to the employer's responsibilities including revision to Section 1427 (Operator Qualification) which assigns the employer the responsibility of providing mandatory training, **employer evaluation** and qualification of crane operators; **separate** from requirement for Crane Operator National Certification.

This session will assist employers in complying with the new requirement for their designated **in-house crane operator evaluators**.

#### **Session will focus on:**

- Source and enforcement dates of new crane rule requirements
- Difference between Crane Operator National Certification and Crane Operator Qualification
- Employer's new responsibilities for training, **evaluation** and qualification of their crane operators
- Suggested steps required to meet new requirements for employer's crane operator evaluation process
- Evaluator's role and responsibilities
- How to verify crane operator's knowledge of craning hazards, risks involved, safety devices, operational aides and crane configuration
- Operating evaluation of crane operator including crane setup, basic and specialty hoisting skills to competently and safely operate the crane assigned and perform required hoisting and lifting tasks
- Complete details of using crane operator evaluation forms (2 types) plus instruction on record keeping and documentation requirements

**Attendees will receive:** 40-page Crane Operator Evaluator Workbook/Informational Guide, 2 pads of operator evaluation forms (2 types) and a certification of completion.

**NOTE:** "Evaluator Trainer Media Kit" will be available for employers to internally train multiple evaluators; interested attendees will have opportunity to order the kit at a discounted cost at conclusion of the session.

**Registration Fee:** \$225; \$295 after 12/11/19



Questions should be directed to Ron Overton at [ron@overtonsafety.com](mailto:ron@overtonsafety.com) or 866-531-0403.

### **PTI Certification Workshop: Level 1 Unbonded PT Installation**

*Presented by the Post-Tensioning Institute.*

**Course Code:** PTITW

**Date/Time:** Tues - Wed, Feb 4 - 5 • 8:00 am – 5:00 pm

**Location:** LVCC North Hall, N119

 **POST-TENSIONING INSTITUTE**  
*Strength in Concrete*

This 2-day workshop outlines the basic body of knowledge that should be possessed by all personnel involved in the installation and inspection of single strand unbonded post-tensioning systems for elevated structures. It also serves as an effective introduction for personnel new to post-tensioning, while at the same time providing support and organization for experienced persons.

#### **Course Details:**

- Post-tensioned concrete concepts and theory
- Post-tensioning components
- Special requirements for encapsulated systems
- Installation requirements
- Tendon stressing and equipment
- Barrier cable installation

**Who should attend:** This training is of value to installers—both new & experienced—inspectors, building officials, engineers, architects and anyone who would like to know more about unbonded post-tensioning installation.

**Benefits of Certification:** Quality of materials and workmanship are critical to the long-term durability and performance of post-tensioning. Individuals who complete this training will have a sound working knowledge of post-tensioning installation and inspection that will benefit them and their employers in many ways, including:

- Durability of PT construction
- Improved productivity
- Enhanced safety
- Risk reduction
- Code and specification compliance
- Improved profitability and competitiveness
- Professional development
- Better value for the owner

**Code and Specification Compliance:** The International Building Code incorporates ACI 318, “Building Code Requirements for Structural Concrete,” which requires that post-tensioning installation be performed by individuals certified by an independent training and certification program; PTI-certified field personnel meet this requirement.

**Registration Fee: \$445; \$495 after 12/11/19**



Questions should be directed to [info@post-tensioning.org](mailto:info@post-tensioning.org) or 248-848-3180.

### **Level I PCI Quality Control Technician/Inspector Certification**

**Course Code/Dates/Times:** PCI1 • Mon, Feb 3, 8:00 am – 5:00 pm • Tues, Feb 4, 8:00 am – 10:00 am

### **Level II PCI Quality Control Technician/Inspector Certification**

**Course Code/Dates/Times:** PCI2 • Tues, Feb 4 • 10:00 am – 5:00 pm • Wed, Feb 5, 8:00 am – 11:00 am

**Level I & II Certification COMBO Code:** PCI3

**Location:** LVCC South Hall, Room S232

*Presented by Precast/Prestressed Institute.* Quality Control Technician/Inspector Level I & II presented together for a 3-day learning experience and certification opportunity. Attendees will receive a copy of the valuable Quality Control Technician/Inspector **Level I & II Training Manual TM-101**, plus class notes and reference material.

This curriculum was developed especially for quality control personnel, engineers, technician/managers, plant managers/superintendents, consulting engineers and technicians. However, the schools and certifications are open to everyone involved in planning, operations and quality control in the precast products industry.

Level I includes a review of PCI certification programs, both plant and personnel. Basic concrete topics and mix design concepts (such as water/cementitious ratio) are introduced as well as beginning design concepts such as concrete strength, the need for reinforcement and conventional reinforcing bars. Level 1 is a one-and-a-half-day course.

Level II continues with intermediate concrete topics and mix design concepts. Prestressing is introduced; attendees run calculations and discuss correction factors. Level II is a one-and-a-half-day course.

Level I & II program includes practice sessions, student-instructor interaction and certification examinations.

**Registration Fees – Level I: \$595; Level II: \$595; Level I & II Combo: \$995**



Questions about PCI should be directed to David Anians at [danians@pci.org](mailto:danians@pci.org) or 312-583-6775.



### **SAIA Competent Person Training – Frame Scaffold**

*Presented by the Scaffold & Access Industry Association.*

**Course Code:** SAIAFTU

**Date/Time:** Tues, Feb 4 • 8:00 am – 4:30 pm

**Location:** LVCC North Hall, Room N208



This program is designed for scaffold erectors and covers all the safety aspects regarding frame scaffold foundations, scaffold components, regulations, guardrail requirements, and erection and dismantling procedures for frame scaffolds that exceed the standard height to base ratio. The course format includes a combination of presentation, question and answer, a hands-on practical component and final exam.

Participants who score 70% or higher on the Competent Person written exam and display competency building frame scaffolding will receive a certificate of completion and wallet card from the SAIA Training Program, certifying completion of Competent Person Training in the erection of frame scaffolds. Those not meeting a 70% on the final exam will receive a certificate completion and wallet card for the Hazard Awareness training.

- Course includes training manual, ***Competent Person Training: Frame Scaffold***, with self-test questions
- Final exam is based on self-test questions; important that students correctly answer all self-test questions in preparation for the final exam

**HOW TO PREPARE:** Register early to allow plenty of time to study; essential that participants [read the textbook and complete all self-tests](#). Bring textbook on the day of the class for review.

**WHAT TO WEAR:** tennis shoes, long pants and shirts with 4-inch sleeve. PPE will be provided

**RECERTIFICATION:** Competent person designation is expired if older than 3 years old; you can re-certify at this course.

**Registration Fee: \$399**

### **SAIA Competent Person Training – Suspended System**

*Presented by the Scaffold & Access Industry Association.*

**Course Code:** SAIASTU

**Date/Time:** Tues, Feb 4 • 8:00 am – 4:30 pm

**Location:** LVCC North Hall, Room N206



This program is designed for suspended scaffold users and covers all the safety aspects regarding suspended scaffold stages, ropes, regulations, guardrail requirements, fall protection, hoists and installation components. The course format includes a combination of presentation, question and answer, and final exam.

Participants who score 70% or higher on the Competent Person written exam will receive a certificate of completion and wallet card from the SAIA Training Program certifying completion of Competent Person Training with Suspended Scaffold.

- Course includes training manual, ***Safety Training for Suspended Scaffolds***, with self-test questions
- Final exam is based on self-test questions; important that students correctly answer all self-test questions in preparation for the final exam

**HOW TO PREPARE:** Register early to allow plenty of time to study; essential that participants [read the textbook and complete all self-tests](#). Bring the textbook on the day of the class for review.

**RECERTIFICATION:** Competent person designation is expired if older than 3 years old; you can re-certify at this course.

**Registration Fee: \$399**

### **SAIA Competent Person Training – System Scaffold**

*Presented by the Scaffold & Access Industry Association.*

**Course Code:** SAIAWE

**Date/Time:** Wed, Feb 5 • 8:00 am – 4:30 pm

**Location:** LVCC North Hall, Room N208



This program is designed for scaffold erectors and covers all the safety aspects regarding system scaffold foundations, scaffold components, regulations, guardrail requirements, and erection and dismantling procedures for frame scaffolds that exceed the standard height to base ratio. The course format includes a combination of presentation, question and answer, a hands-on practical component and final exam.

Participants who score 70% or higher on the Competent Person written exam and display competency building frame scaffolding will receive a certificate of completion and wallet card from the SAIA Training Program, certifying completion of Competent Person Training in the erection of system scaffolds. Those not meeting a 70% on the final exam will receive a certificate completion and wallet card for the Hazard Awareness training.

- Course includes training manual, **Competent Person Training: System Scaffold**, with self-test questions
- Final exam is based on self-test questions; important that students correctly answer all self-test questions in preparation for the final exam

**HOW TO PREPARE:** Register early to allow plenty of time to study; essential that participants read the textbook and complete all self-tests. Bring your textbook on the day of the class.

**WHAT TO WEAR:** tennis shoes, long pants and shirts with 4-inch sleeve. PPE will be provided

**RECERTIFICATION:** Competent person designation is expired if older than 3 years old; you can re-certify at this course.

**Registration Fee: \$399**



Questions about SAIA should be directed to Jackie Brown at [jackie@saiaonline.org](mailto:jackie@saiaonline.org) or 816-595-4843.

### **Waterproofing: The Next Generation of Solutions**

*Presented by Sika Corporation.*

**Course Code:** SSSTU

**Date/Time:** Tues, Feb 4 • 1:00 pm – 3:30 pm

**Location:** LVCC South Hall, Room S229

**BUILDING TRUST**



**NEW for WOC 2020!** This session will explore the state of the art in waterproofing and weatherproofing throughout the entire building envelope. Product and application areas like elastomeric joint sealants, liquid applied traffic coatings, liquid applied below grade waterproofing, air barrier and roofing applications will be included in the presentation.

**Registration Fee: \$115; \$135 after 12/11/19**



Questions should be directed to Eric Muench at [muench.eric@us.sika.com](mailto:muench.eric@us.sika.com).

### **SCA Slag Cement in Durable Concrete**

*Presented by the Slag Cement Association.*

**Course Code:** SCAWE

**Date/Time:** Wed, Feb 5 • 10:00 am – 11:30 am

**Location:** LVCC North Hall, Room N221



Join representatives from the Slag Cement Association and explore the positive impacts of slag cement in making concrete more durable. Attendees will leave with a better understanding on how slag cement influences concrete

attributes like higher compressive and flexural strengths, lower permeability, reducing thermal cracking in mass concrete, and the mitigation of sulfate resistance and alkali silica reaction. The presentation will also cover the basics of slag cement use, applications, sustainable characteristics, related specifications and end with case study overviews from the 2019 Slag Cement Project of the Year award winners.

**Attendees will receive:**

- Copy of the **Slag Cement in Concrete Manual** including over 25 slag cement data sheets, 10 case studies and the slag cement supplier directory (\$70 value)
- Subscription to the **Slag Cement Monthly Update**

**Registration Fee: \$75; \$95 after 12/11/19**

Questions should be directed to Drew Burns at 248-848-3777 or [drew.burns@slagcement.org](mailto:drew.burns@slagcement.org).

**SSPC Concrete Coating Inspector (CCI) - Levels 1 & 2**

*Presented by the Society for Protective Coatings.*

**Course Codes:** SSPC1 (Level 1) | SSPC2 (Level 2)**Level 1 & 2 Dates/Times:** Sun - Wed, Feb 2-5 • 8:00 am - 5:00 pm | Exam: Thur, Feb 6, 8:00 am - 12:00 pm**Level 2 Exam Only - Code SSPC2EX:** Thur, Feb 6, 8:00 am - 12:00 pm**Location:** LVCC North Hall, Room N204

**NEW for WOC 2020!** Inspections are one of the most essential parts of the coatings process. Inspectors, contractor managers, specifying engineers, technical personnel and material/equipment suppliers involved in the concrete coating industry should attend this course. Participants can walk away as Level 1 or Level 2 Certified Concrete Coating Inspectors with deeper understanding of surface preparation, coatings, inspection instruments, and tests done before, during and after coating of industrial concrete structures and facilities.

**Course Content:**

- Common duties, responsibilities and role of a concrete coating inspector
- Job-specific duties identified in pre-job conferences & work plans
- Concrete coating inspection equipment
- Inspection of concrete surface preparation
- Moisture impact on concrete substrate, moisture vapor emissions rate and concrete moisture testing
- Concrete coating inspections during and after coating application
- Inspection plan/procedure

**Course Agenda:**

- **Sun-Tues:** classroom lectures, quizzes, written homework and assigned readings
- **Wed:** inspection of coating application; three workshops (coating adhesion testing, inspection plan development, simulated QA/AC inspection); CCI Level 1 written exam; and hands-on practical focusing on use of inspection instruments
- **Thurs:** Level 2 Certification exam for candidates who have passed the CCB eCourse and CCI Level 1 exams

**Registration includes:** comprehensive manual with references of relevant SSPC standards and **required** online Concrete Coating Basics (CCB) eCourse. Lunch is not provided with this course.

**Registration Fee CCI Level 1: \$1,345****Registration Fee CCI Level 1 & 2: \$1,545****Registration Fee CCI Level 2 Exam Only: \$500**

Questions should be directed to Sara Badami at [badami@sspc.org](mailto:badami@sspc.org) or 412-281-2331 ext 2208.

### **TCA Pervious Concrete: Design, Installation & Maintenance**

*Presented by the Tennessee Concrete Association.*

**Course Code:** TCAMO

**Date/Time:** Mon, Feb 3 • 1:00 pm – 4:00 pm

**Location:** LVCC North Hall, Room N221



Pervious concrete is a growing application for ready mixed concrete pavements, especially in urban areas. There have been many significant changes in mix design and placement technologies in the past five years, including a newly revised publication for the NRMCA Installer Certification course. This session is targeted toward contractors and will focus on keys to successfully installing durable pervious concrete pavements. The seminar will also include the latest information on chemical resistance of pervious concrete and keys for both maintaining and cleaning pervious concrete.

**Registration Fee: \$125; \$155 after 12/11/19**

**Pervious Certification Candidates:** For those interested in being certified by NRMCA as a Pervious Concrete Technician, see 4-hour certification review seminar **MO402** scheduled Mon, 8 am - 12 pm and corresponding written exam **TUPCW** scheduled Tues, 3 pm – 5 pm. See **MO402** and **TUPCW** descriptions for more details.

**Separate registration & fees required** for 4-hour review **MO402** (\$210; \$245 after 12/11/19) and written exam **TUPCW** (\$175; \$200 after 12/11/19).



Questions about the pervious course and certification should be directed to Tennessee Concrete Association at 615-360-7393 or [asparkman@tnconcrete.org](mailto:asparkman@tnconcrete.org).

### **Epoxy 101 – Basic Chemistry & Applications**

*Presented by the Thermoset Resin Formulators Association.*

**Course Code:** TRFTH

**Date/Time:** Thur, Feb 6 • 9:00 am – 10:30 am

**Location:** LVCC South Hall, Room S229



**NEW for WOC 2020!** This new industry training course will introduce the basic chemistry of epoxy and how it can be cured. The pros and cons compared to other chemistries will be discussed in addition to how to select appropriate products based on specific applications.

**Presented by Roy Kelly, PhD of Olin Corporation, topics of discussion will include:**

- Basic chemistry and curing mechanism of epoxy
- Benefits and issues when using epoxy systems
- Current trends and future of the epoxy industry
- Applications and selection criteria for epoxy in construction
- Environmental health and safety when handling epoxy

**Registration Fee: \$85; \$105 after 12/11/19**



Questions should be directed to Julie Mongeluzi at [JAMongeluzi@olinbc.com](mailto:JAMongeluzi@olinbc.com) or 989-948-7230.

### **Hoover Dam & Bypass Bridge Tour**

*Presented by World of Concrete. Sponsored by MAPEI Group.*

**Course Code/Date/Time:** HDS Sun, Feb 2 • 12:00 pm - 5:00 pm

**Course Code/Date/Time:** HDF Fri, Feb 7 • 12:00 pm - 5:00 pm

**Location:** LVCC North Hall, Room N109



Join Rick Yelton, World of Concrete's Editor at Large, on a visit to two of the world's most famous concrete structures, the Hoover Dam and the Mike O'Callaghan – Pat Tillman Memorial Bridge. Experts will share the behind-the-scenes information on how these concrete structures, built more than 50 years apart, played an important part in the development of new standards in concrete construction in their own era.

Attendees will first meet for a brief orientation and special presentation about the construction of the largest concrete arch bridge in the United States in a meeting room in the Las Vegas Convention Center. The presentation will explain the engineering challenges, crane work, concrete mix designs and how contractors accomplished these special projects.

**NOTE:** Following the tour, busses will drop off attendees at the Las Vegas Monorail Access across from South Hall.

**Tour Registration Fee: \$120; \$140 after 12/11/19**



Questions about the tours should be directed to [contactus@worldofconcrete.com](mailto:contactus@worldofconcrete.com).

### **History of Cement and Concrete: Pyramids to the 21st Century**

*Presented by World of Concrete.*

**Course Code:** WOCTH

**Date/Time:** Thur, Feb 6 • 2:00 pm – 3:30 pm

**Location:** LVCC North Hall, Room N228



The history of cement and concrete has many roots; this presentation will trace the roots of cement and concrete through the construction of pyramids. The presentation will show the steps from gypsum, lime, natural cement to today's modern cements and how they made many of the historical structures we still enjoy today.

Luke Snell, PE, FACI, immediate past Chair of the ACI History Committee, will highlight how local conditions influenced the development of concrete, explain the progression from simple mortars used by native Americans to modern concrete and describe how the Erie Canal and Hoover Dam projects challenged and changed concrete construction.

**Registration Fee: \$60; \$85 after 12/11/19**



Questions should be directed to Luke Snell at [lsnellpe@gmail.com](mailto:lsnellpe@gmail.com) or 480-710-8958.

### **Construction of the Hoover Dam & Hoover Dam Bypass**

*Presented by World of Concrete.*

**Course Code:** HDFP

**Date/Time:** Fri, Feb 7 • 10:00 am – 11:30 am

**Location:** LVCC North Hall, Room N111



***Challenges met to build two iconic structures—history can provide insights on how to solve modern problems.***

In this exciting presentation, attendees will learn how contractors used the best-practices of the day in the construction of the Hoover Dam & the Hoover Dam Bypass Bridge. Although the construction projects were separated by 75 years, each project faced similar difficulties i.e. extreme temperatures, difficult soil condition, lack of access to the construction site, and meeting tight budgets & deadlines on a one-of-a-kind project.

Presented by Luke M. Snell, PE, FACI, immediate past Chair of ACI History Committee with Rick Yelton, Editor at Large, World of Concrete; this is a unique opportunity to see this historical project through the contractor's eyes. Hear how engineers and architects worked together to create functional structural projects recognized as architectural icons today.

**NOTE:** This session **does not include Hoover Dam Tour**. Separate registration & fee required for the tour.

**Registration Fee: \$85; \$105 after 12/11/19**

**SPECIAL SAVINGS:** Discounted fee of \$75 with purchase of either HDS or HDF tour before 12/11/19.



Questions about Hoover Dam presentation or tours should be directed to [contactus@worldofconcrete.com](mailto:contactus@worldofconcrete.com).