

NPCA KEYNOTE ADDRESS

KL - The Changing Face of the Precast Industry

During the NPCA Keynote Luncheon featuring Industry Awards and Graduations.

Thursday, March 5 • 11:30 a.m. – 1:30 p.m.

Bradley Hartmann, Red Angle Inc.

	Member / Nonmember
Full Package:	Included / \$90
The Precast Show Education and Committee Package:	\$65 / \$90
Trade Show Only:	\$65 / \$90
Child:	\$10

In this engaging and entertaining keynote, Bradley Hartmann will share ideas and insights to help your team adapt to the ongoing changes facing your business. As labor shortages, generational leadership hand-offs, and cultural and linguistic differences impede your ability to grow your business profitably, Hartmann will offer practical and tactical steps you can take in the short term to position your team for success in the coming decade.

NPCA'S PRECAST UNIVERSITY



**PRECAST
UNIVERSITY**

Starting with the fundamentals of precast concrete production and progressing through advanced technical, safety and leadership topics, NPCA's Precast University offers a comprehensive series of precast-specific training courses for anyone who wants to advance in the industry. Precast University brings together all NPCA's Production & Quality School (PQS) courses in a career path that concludes with an industry-recognized certification – the Master Precaster designation.

Taught by leading industry experts, PQS courses dive deep into topics in concentrated learning sessions during The Precast Show. Some PQS courses are available online or by webinar, with in-person courses occasionally offered in locations throughout North America. Courses include:

- Production & Quality School (PQS I)
- PQS II - Safety

- PQS II - Production
- PQS II - Technical
- PQS II - QA/QC
- PQS III - Leadership

Completing the curriculum earns the participant the designation of Master Precaster, with a graduation ceremony held each year during The Precast Show. For complete information, visit precast.org/education.

As part of its mission to develop comprehensive educational resources for the precast concrete industry, NPCA provides plant personnel with in-depth learning opportunities taught by expert industry instructors as part of Precast University. Comprised of special-topic schools, Precast University courses involve a multi-day commitment that includes extensive curriculum and an exam.

The requirements for PQS II-Safety have been updated to better accommodate participants who have already earned an OSHA Safety Card. Participants who meet one of the following requirements will receive full credit for completion of PQS II-Safety:

- Successful completion of NPCA's PQS II-Safety: Precast Module (available online at precast.org/education) AND hold a valid OSHA 10-hour Safety Card
- Hold a valid OSHA 30-hour Construction Safety Card
- Hold a valid OSHA Authorized Trainer Card

If you have an OSHA 30-hour or an OSHA authorized trainer card, you must submit a copy of your valid OSHA card along with the application to NPCA to receive credit for PQS II-Safety. The application can be found at precast.org/oshacard.

NPCA'S PRECAST UNIVERSITY

PQS – Production and Quality School Level I (PQSI) ●

Mel C. Marshall, P.Eng., Mel C.

Marshall Industrial Consultants Inc.

Kayla Hanson, P.E., NPCA

Claude Goguen, P.E., LEED AP, NPCA

Full Package or Committee and The Precast Show Education Package Member: \$375

Trade Show Only Member: \$645

Full Package or Committee and The Precast Show Education Package Non-member: \$475

Trade Show Only

Non-member: \$745

Production and Quality School (PQS I) is NPCA's flagship course and is the perfect starting point to provide plant personnel with the fundamentals of quality precast concrete manufacturing. Designed especially for all production personnel and QC inspectors, this course covers all aspects of manufactured concrete production, from raw materials to post-pour inspection, with special emphasis on maintaining high quality throughout the entire manufacturing process. This course satisfies the plant certification requirement of the current edition of the NPCA Quality Control Manual for Precast Concrete Plants.

Attendees who successfully complete PQS Level I will be able to:

- Identify the key components for making quality precast concrete and proper handling techniques for each
- Describe in detail the entire manufacturing process of producing quality precast concrete from pre-production to post-production
- Calculate the impact of temperature of aggregates, cement and water on concrete mixes
- Convert metric reinforcement bar sizes to ASTM standard reinforcing bar sizes
- Explain the fundamental elements of a quality concrete mix design and troubleshoot potential mix design flaws
- Create a quality control manual specific to plant production practices while incorporating industry best practices

PQS I

Tuesday, March 3 (Day 1)

8:00 a.m. – 5:00 p.m.

PQS I

Wednesday, March 4 (Day 2)

9:00 a.m. – 5:00 p.m.

Please Note: Participants in this school are required to attend both days of class and pass the exam to obtain a certificate of course completion. Please make your travel arrangements accordingly.

PQS2 – PQS II - Production (PQSII) ■

David Jablonsky, P.E., FPCI, ALP Supply

Todd Jones, ALP Supply

Barry Fleck, ALP Supply

Todd Spindler, Sika Corp.

Ashley Smith, Smith-Midland Corp.

Alan Pritchard, Smith-Midland Corp.

Claude Goguen, P.E., LEED AP, NPCA

Full Package or Committee and The Precast Show Education Package Member: \$375

Trade Show Only Member: \$645

Full Package or Committee and The Precast Show Education Package Non-member: \$475

Trade Show Only

Non-member: \$745

PQS Level II - Production is designed for plant personnel who will benefit from a comprehensive understanding of precast-specific production practices in four key areas: lifting and handling, issues related to production practices, lean manufacturing, and patching and repair. This course goes beyond the fundamentals explored in PQS Level I to prepare students to think critically about the links between these four areas and common plant production and safety issues. Course participants will go in-depth in exploring these topics, discussing best practices and learning to address production challenges in their plants.

Shift supervisors, team leaders, production managers, batch plant operators, engineering and drafting personnel and those who aspire to these positions should attend.

Attendees who successfully complete PQS II - Production will be able to:

- Explain the key concepts of lean manufacturing and develop an action plan for implementing simple lean techniques
- Identify the difference between structural and cosmetic repairs and employ the appropriate patching/repair techniques for each
- Determine the most likely causes of cosmetic and/or structural concrete issues
- Analyze the current lifting and handling techniques in their plant and assess these techniques to identify potential areas of improvement for plant safety

PQS II - Production

Tuesday, March 3 (Day 1)

8:00 a.m. – 5:00 p.m.

PQS II - Production

Wednesday, March 4 (Day 2)

9:00 a.m. – 5:00 p.m.

Please Note: Participants in this school are required to attend both days of class and pass the exam to obtain a certificate of course completion. Please plan your travel arrangements accordingly.

PQS3 – PQS III - Leadership (PQSIII) ▲

Sam Lines, MBA, Concrete Sealants Inc.

Full Package or Committee and The Precast Show Education Package Member: \$375

Trade Show Only Member: \$645

Full Package or Committee and The Precast Show Education Package Non-member: \$475

Trade Show Only

Non-member: \$745

Attendees of this workshop will learn what it means to be a leader – learning to lead themselves and influence others. The discussions, skits, and activities presented will enhance the skills and knowledge necessary to become a person of influence. Attendees will learn key attributes required to build teams, select employees, and motivate others to accomplish the goals of the organization. Anyone who wishes to be a person of influence in their company, their community, or in any organization is encouraged to attend this course.

Attendees who successfully complete PQS III - Leadership will be able to:

- Lead by example, creating a vision that others will want to follow
- Build teams of individuals with unique, complementary strengths
- Identify effective methods to motivate others, increasing performance
- Become a transformational change agent for their organization

PQS III - Leadership

Tuesday, March 3 (Day 1)

8:00 a.m. – 5:00 p.m.

PQS III - Leadership

Wednesday, March 4 (Day 2)

9:00 a.m. – 5:00 p.m.

Please Note: Participants in this school are required to attend both days of class and pass the exam to obtain a certificate of course completion. Please plan your travel arrangements accordingly.

PRECAST SHOW EDUCATION

NEW! The Precast Show Education includes all education courses, except for Production & Quality School (PQS) and Titan courses, which are available for an additional registration fee.

The following registration packages include all Precast Show Education courses. Members of NPCA, PCI or partnering associations receive discount pricing for any courses with additional charges.

- The Precast Show Full Package
- PCI Full Conference
- NPCA Committee Meetings and The Precast Show Education
- PCI Committee Meetings and The Precast Show Education
- Academic and Student registration

CONCRETE PRODUCTION

The Concrete Production Track explores best practices in the precast industry and strengthens attendees' knowledge of the fundamentals of quality precast concrete. Courses are designed for those involved in the daily production of quality precast concrete products and will include safety and other topics that are appropriate for those seeking a broad range of knowledge in precast production.

CP1 - Internally Cured Concrete: A Look Inside a New Technology ▲

Friday, March 6

8:00 a.m. – 9:30 a.m.

Jason Weiss, Ph.D., Oregon State University

Conventionally cured precast concrete involves maintaining a moist environment. This is sometimes done by applying water to the concrete surface by several means including misting, spraying or wet burlap. Internally Cured (IC) concrete actually uses water supplied from porous inclusions inside the fresh concrete to provide for hydration and replace lost moisture. This technology has been studied in laboratories for many years but has since transitioned to field trials and implementation in

many infrastructure projects. Studies have shown that IC will reduce shrinkage and associated cracking and reduce permeability which enhances durability. Dr. Jason Weiss, the Head of the School of Civil and Construction Engineering at Oregon State University and author of 400 publications relating to concrete materials, has been a key participant in studying the implementation of IC. He will share his thoughts on how this technology could be used in precast concrete manufacturing. Dr. Weiss will explain the concept of IC, along with mixture proportioning, manufacturing considerations and potential applications. This is a course for those who like to stay on top of developing technologies that help keep concrete a cutting-edge building material.

At the conclusion of this course, you will be able to:

- Describe the concept of IC concrete
- Identify specific material and mix proportioning considerations in using IC
- Discover applications where IC could be used in precast concrete manufacturing
- List manufacturing considerations when using IC

CP2 - Precast 101 ●

Friday, March 6

8:00 a.m. – 10:00 a.m.

Kayla Hanson, P.E., NPCA

With the precast concrete industry constantly growing, companies are continually hiring new employees.

Ensuring those employees get up to speed quickly can improve teamwork, reduce mistakes and help new hires quickly become productive employees. This course is intended for those who are new to precasting and includes an introduction to basic concepts including terminology, different types of concrete in the precast industry and their uses, raw materials, different types and applications of reinforcement, typical production practices, common curing procedures, fresh and hardened concrete tests, and the importance of quality control and quality assurance.

At the conclusion of this course, you will be able to:

- Define precast concrete terminology and processes
- Differentiate between different types of concrete and their common applications
- Explain the role of each raw material in a concrete mix
- Explain typical production practices and curing procedures and the purposes behind them
- Identify various fresh and hardened concrete tests
- Define the benefits of precast

CP3 – Troubleshooting Your SCC ■

Friday, March 6

10:30 a.m. – Noon

G. Terry Harris, FACI, GCP Applied Technologies

The precast industry has embraced Self-Consolidating Concrete (SCC) technology. However, producers can still find themselves struggling with

this finicky concrete mix. Struggle no more and come learn from an expert on SCC. Terry Harris will tackle common issues producers face while batching and placing SCC. He will identify causes and solutions for such problems as segregation of aggregates, low strength, low slump flow, and bug holes. Attendees will learn how to adjust combined aggregate gradations, modify other mix proportions and manufacturing processes to overcome these challenges. This course is a must for anyone working with SCC or considering adopting its use.

At the conclusion of this course, you will be able to:

- Recognize causes of SCC surface defects and how mix proportions and casting procedures can be modified to mitigate these defects
- Describe how combined aggregate gradation can affect your mix performance

CP4 – Formliners: Best Practices and Endless Possibilities ●

Saturday, March 7

8:00 a.m. – 9:30 a.m.

Ray Clark, US Formliner Inc.

As the construction industry continues to recognize the freedom of design that comes with precast concrete, more and more unique and intricate finishes are requested. From lettering, stone textures and thin brick applications to photo engraving and wood grain patterns, formliner technology has evolved to enable any designer's vision. This course will focus on the different types and applications of formliners in the precast concrete industry.

Attendees will also learn best practices to obtain the desired finish while extending the life of the formliner. Attendees will even get to make their own sample of a formliner during a hands-on demonstration. Emerging technologies in formliners and other precast concrete finish products will be discussed. If you make panels, beams, sound walls, retaining walls, or other exposed concrete products, this course will provide you with valuable resources to offer unique designs to your customers.

At the conclusion of this course, you will be able to:

- Describe the most commonly used formliners in the precast industry
- Identify best practices when using different types of formliners to obtain best results and extend formliner durability
- Discover new applications of formliner technology that could be used for your market
- Explain causes and remedies for variations in slump flow and fresh SCC stability

CP5 – What You Need to Know to Perform Precast Concrete Repairs in the Field ■

Saturday, March 7

8:00 a.m. – 9:30 a.m.

Claude Goguen, P.E., LEED AP, NPCA

Precast concrete producers are diligent in their efforts to streamline their manufacturing to ensure safety, consistency, quality and efficiency. The intent is to avoid errors that result in necessary repairs. Inevitably,

a situation arises where a repair is necessary in the yard or in the field, and it could be the contractor's fault, the owner's fault, or even the manufacturer's fault. Either way, a repair is necessary. An effective, thorough repair process can avoid coming back to "repair the repair." During this session, we will examine a variety of repair scenarios that may necessitate a field repair. We will look at handling issues such as chips, spalls and cracks. We will look at production-related issues such as honeycombing and bug holes. We will also look at in-service issues such as concrete degradation due to environmental exposure, and at stress-induced cracking. Each of these potential issues requires a careful evaluation to determine the best materials and method for the conditions. We will discuss common repair materials and practices along with new technologies available for concrete repair. Whether you make septic tanks, wall panels or bridge beams, the material presented in this course will help provide repair personnel and supervisors some guidance.

At the conclusion of this course, you will be able to:

- Describe materials and methods best suited for specific repairs in specific field conditions
- Identify new technologies that can enhance the repair process and durability
- Define standards and resources that are available for precast concrete repairs
- Describe common mistakes made when repairing precast in the field

CP6 – Troubleshooting Precast Production: Problems and Solutions ●

Saturday, March 7

8:00 a.m. – 11:00 a.m.

Mel C. Marshall, P. Eng., Mel C.

Marshall Industrial Consultants Inc.

There are many components to producing quality precast concrete products. Raw materials, mix design, reinforcing, consolidation and curing all play a part in achieving the final product. In this interactive class, attendees will learn from an expert and from each other. Mel Marshall will lead a discussion of best practices and solutions to production issues that precasters deal with every day. Bring your questions to this session where we'll address your production issues and discuss how to resolve them.

At the conclusion of this course, you will be able to:

- Identify sources of common precast production challenges
- Troubleshoot quality control issues
- Take at least three new ideas back to your plant to help improve your production process

CP7 – Production Challenges in the Precast Plant: A Panel Discussion ■

Saturday, March 7

9:45 a.m. – 11:00 a.m.

Panel Discussion

Precast concrete production involves many materials, machines and employees and, inevitably, challenges can pop up on any given day. Wouldn't it be great to have a group of people in the room who do what you do and have some advice to offer? This session provides that opportunity. Join the discussion with a panel of experienced precast concrete managers and supervisors from all over the U.S. representing a variety of precast products. These panelists will be asked to share some of their most challenging situations and how they handled them. This will be an interactive session where attendees can share their own experiences and ask for advice from others who have been there. This sharing of experiences and knowledge can provide valuable ideas to take back and use when that next challenge falls in your lap.

At the conclusion of this course, you will be able to:

- Describe new ideas when dealing with plant employee issues
- Identify innovative ways to deal with unexpected manufacturing challenges
- Interpret challenges described by others and apply some of those solutions in your plant

LEADERSHIP & MANAGEMENT

NEW! The Precast Show Education includes all education courses, except for Production & Quality School (PQS) and Titan courses, which are available for an additional registration fee.

Strong leaders never stop pursuing greatness, and one of the common traits of great leaders is continuous learning. NPCA's Leadership and Management Track is designed for leaders like you who want to continue to grow and develop. Courses are intended for those who have held senior leadership positions or who aspire to hold these positions in the future and are taught by leadership experts both from within and outside of the precast concrete industry.

LM1 - Developing a Culture of Operational Excellence ■

Friday, March 6

8:00 a.m. – 10:00 a.m.

Sam Lines, MBA, Concrete Sealants Inc.

For our businesses to be successful, we must strive for operational excellence by shortening the time from when we take an order to when we are paid. Shigeo Shingo, one of the original pioneers in the development of the Toyota Production System, believed there are four purposes of continuous improvement: make the work easier, better, faster and cheaper. Implementing lean principles, lean systems and the use of lean tools will drive continuous improvement and provide a roadmap to operational excellence. You will learn that operational excellence has everything to do with leadership at every level of the organization, as lean principles and systems are incorporated into the culture. Join us for an in-depth discussion on lean leadership, continuous improvement and driving out waste.

At the conclusion of this course, you will be able to:

- Recognize the importance of leadership at all levels of an organization
- Recite the guiding principles of the Shingo Model
- Discover the importance of standardized work for continuous improvement
- Identify waste in your operation and drive it out

LM2 - Good to Excelente: Embracing Cultural Differences to Enhance Your Team ■

Friday, March 6

8:00 a.m. – 11:00 a.m.

Bradley Hartmann, Red Angle Inc.

Digging deeper on the themes introduced in his keynote presentation, Bradley Hartmann will help attendees understand how cultures and generations have different baseline levels of trust – and how harnessing this knowledge is the key to enable teams to reach their full potential without the daily brain damage that frustrates many in our industry. Practical tools will be introduced

to improve your ability to persuade and influence your team while improving communication through clarity of intent and planned follow-up. Entertaining, engaging, and immediately applicable, you will not want to miss this breakout!

At the conclusion of this course, you will be able to:

- Help your team adapt to the ongoing changes facing your business
- Improve your ability to positively influence your team
- Implement follow-up techniques to improve communication

LM3 - Leadership in a Demanding World: Being There, Here and Everywhere ▲

Friday, March 6

8:00 a.m. – 11:00 a.m.

Dr. Mike Renquist, The Patnaude Group

The level of uncertainty has ratcheted up. Is it the situation of the world today that is unraveling or distracting? Or is it you? Certainly, the world as we know it has increasing demands at work, regardless of our situation or role,

due to instantaneous communication, globalization, technological advance, flattening organization, and customer expectations. It seems like every phone call and every email matters. The importance of “showing up” couldn’t be greater, but leadership can be difficult in a multi-tasking, seemingly unpredictable world with digital and other distractions that stretch and pull us. In this three-hour session, we’ll use emotional intelligence as a starting point to address personal focus, how to bounce back when change happens and how to influence others with behavioral approaches of leadership.

At the conclusion of this course, you will be able to:

- Recognize what is important by addressing personal focus
- Bounce back when change happens
- Consider the disadvantages of compartmentalization
- Explore the dynamics of empathy and curiosity in customer relationships

LM4 – Managing the Production Process: Part II ■

Friday, March 6

10:00 a.m. – Noon

Aaron Ausen, Rosetta Hardscapes

Managing the production process is difficult. It is a struggle of people and processes that can be chaotic, cumbersome and just plain unbearable. There are many aspects that must be thought of all the time, and having a clear vision is more important now than ever. In this course, we will dive

deep into managing the process of production. We will build on what we talked about in the previous class and discuss what works and what does not. We’ll discuss different layouts, changing shifts and working with your people. Lastly, we will dive into leadership and talk about leadership in you, your team, and instilling servant leader principles to create a team that cares for each other. This course is intended for anyone in production management or anyone aspiring to take the next step at their company.

At the conclusion of this course, you will be able to:

- Recognize the importance of leadership roles on the floor
- Implement hiring techniques that are both successful and unsuccessful
- Optimize floor space with efficient form layouts
- Manage sales and upper management concerns

LM5 – Vocational Schools for Workforce Development ●

Friday, March 6

10:30 a.m. – Noon

Nick Graff, Dallas County

Community College District

Tim Samuels, M.Ed., CCMP, Dallas

County Community College

District

Precasters all over the country agree that it’s getting more and more difficult to find plant employees. The community college and vocational school network has honed in on the

workforce development issue, and this session will explain why workforce development efforts are important to academia as well as the industry.

At the conclusion of this course, you will be able to:

- Explain the overall workforce development issue
- Discuss what community colleges and vocational schools are doing to address the issue
- Connect academic efforts to industry needs

LM6 – Crucial Conversations: Effective Tactics for Setting Expectations and Holding Employees Accountable ■

Saturday, March 7

8:00 a.m. – 11:00 a.m.

G. Terry Harris, FACI, GCP Applied Technologies

Sometimes managers will let employees and coworkers avoid accountability because they dislike confrontation. However, a lack of individual accountability creates an unhealthy workplace atmosphere. A lack of accountability sends a message to the rest of the staff that lower standards are acceptable. The team may begin to resent low-performing employees and managers because they may shoulder more work to make up for their teammate’s deficiencies. If you don’t address issues as they arise, the team may perceive it as favoritism or weakness, which can be demotivating for everyone. This interactive session includes tactics on

how to have difficult conversations with employees, address poor performance, consider the employee's feelings, and follow through and follow up to ensure the employee is performing as expected.

At the conclusion of this course, you will be able to:

- Set clear expectations for employee performance
- Have the difficult conversation without being confrontational
- Confront the problem and address poor performance as quickly as possible
- Clarify the conversation and follow up to ensure expected performance

LM7 - The Power of Coaching: How to Evolve Your Leadership Skills ▲

Saturday, March 7

8:00 a.m. – 11:00 a.m.

Mike Bensi, Bensi & Company

As a leader, the idea of coaching can feel daunting. Most of us don't feel we truly know what coaching is or how to make it work. And we're all very busy. The idea of coaching can feel like just another thing to do within an ever-growing list of tasks. We also know that in this tough job market, it is hard to recruit and keep good people. This presentation will explore various methods – and their benefits – of how to evolve our management and leadership skills. As a consultant, Mike Bensi helps organizations build strategies that transform their culture and employee experience, as well as the leaders who support both. By heightening your awareness to your specific behaviors as a leader, you will be able to take action and be better equipped to connect the dots on linking employee success to business success.

At the conclusion of this course, you will be able to:

- Recognize the importance of emotional intelligence in your approach as a leader
- Identify the common phases – and pitfalls – as you evolve as a leader
- Use the value of feedback in creating a greater effort towards coaching
- Implement tools to help lead meaningful coaching conversations

LM8 - Diversity and Inclusion Speaker Panel

Thursday, March 5

10:00 a.m. – 11:30 a.m.

Moderator: Trice Turner

This session will focus on the importance and personal, professional, and industry benefits of workplace diversity. Personal stories will be shared, and panelists will participate in a roundtable Q&A.

MARKETING AND SALES

NEW! The Precast Show Education includes all education courses, except for Production & Quality School (PQS) and Titan courses, which are available for an additional registration fee.

The Marketing and Sales Track is geared toward business owners, senior managers, CFOs, marketing personnel and those who aspire to hold such positions. Expert instructors in sales and marketing will provide the latest in philosophy and techniques. These courses will offer the opportunity to network with fellow managers and owners to discuss common challenges.

MS1 – Marketing Communication: The Power to Drive Results ●

Friday, March 6

8:00 a.m. – 9:30 a.m.

**Brian Miller, P.E., MBA, LEED AP,
GCP Applied Technologies**

Marketing is a broad, strategic part of any business. However, once the research and strategies are built, a strong communication plan is needed to drive results. Marketing communication and promotion are often used to raise awareness as well as generate demand and action. This session will define and discuss how these can be used to execute your overall business plan. We will discuss the various approaches that can be used and some metrics to gauge success. Some key tactics include lunch and learns, advertising, webinars, and building and leveraging industry relationships. We will discuss these in textbook terms, but more importantly how they can be put to work in the precast industry to get the results you are looking for.

At the conclusion of this course, you will be able to:

- Utilize marketing communication to generate results
- Discuss methods and metrics to gauge success
- Implement key marketing communications tactics to obtain positive results

MS2 – Back to School: Expand Your Outreach to College Students and Faculty ■

Friday, March 6

10:30 a.m. – Noon

**Jason Weiss, Ph.D., Oregon State
University**

Chances are your facility is near a community college or a university. Students at these higher learning institutions are potential specifiers or designers of your products. They are also potential employees of your company. For these reasons, it is a good idea to reach out to these institutions to explore outreach opportunities. Faculty and staff are usually very receptive to these efforts as they are often looking to add industry

perspectives and experiences to their curriculums, as well as offer career opportunities for their graduates. The first step toward achieving this educational partnership can be daunting so we are offering this session to provide some guidance. Dr. Jason Weiss has been a civil engineering faculty member for over 20 years and has been involved extensively in both the educational side and the precast concrete industry side. Dr. Weiss has been involved in NPCA studies and has also developed and taught courses in the PQS program. He will share his advice on how you can develop a plan to get in front of future specifiers and employees to develop relationships that will enhance student learning at local colleges and universities.

At the conclusion of this course, you will be able to:

- Describe best ways to approach college and university staff and faculty
- Identify what faculty and students want to hear and learn from a precast industry representative
- Discover ways to enhance the school-company relationship for the long term

MS3 – Take Marketing and Sales Strategies to the Next Level: Expanding Your Influence with Boots on the Ground and Social Media Air Cover ■

Saturday, March 7

8:00 a.m. – 10:00 a.m.

Hugh C. Scott, IV, P.E., Shea Concrete Products

Building and sustaining a loyal customer base requires consistently providing quality products, exceptional service and competitive pricing. These pillars are the basics and are required to keep you where you are today. What strategies are you deploying to elevate your business to the next level? Today's expanding construction industry is looking for solution providers who add value above and beyond the required basics. You may be that solution provider, but how are you showing up?

This session will focus on developing sustainable marketing and sales strategies to expand outreach to customers and increase sales opportunities. We'll discuss leveraging lunch and learns, on-site educational seminars with plant tours, industry group involvement, website optimization, deploying social media outreach, and other valuable media tools that resonate with today's contractors, developers, specifiers

and regulators. Being an essential resource to your customers has never been more important. This session will be interactive. Knowledge shared will include "what not to do" based on lessons learned. The material will benefit sales and marketing personnel as well as management and owners. The tools at your fingertips today allow you to market and reach your audience like never before.

At the conclusion of this course, you will be able to:

- Develop a sustainable outreach program that will appeal to your customers and prospects
- Cultivate a successful educational seminar initiative
- Explore opportunities through social media to enhance your market exposure
- Apply accountability tools to keep you on track

MS4 - Future of Technology for Precast Concrete

Thursday, March 5

10:00 a.m. – 11:30 a.m.

Moderators: Tom Bagsarian and Becky King

How can technology improve your company's identity in the digital world? This session will cover

the evolution of technology tools available for producers. Attendees will learn the basics of virtual reality, drone usage, 3D printing, and other new technologies that may provide advantages and opportunities for your business.

MS5 - Earning Local, State and National Media Coverage for Your Projects and Business

Thursday, March 5

10:00 a.m. - 11:30 a.m.

Moderators: Tom Bagsarian and Becky King

What is media relations, and how can it help grow your business? This session will help attendees understand the basics of working with the media, including their local media, trade media, and even national media outlets. Participants will learn the basics of news release writing and distribution, media relationship building, and how to deal with the media during a crisis. Most importantly, attendees will walk away with another tool in their toolkit for communicating the benefits of precast concrete solutions through credible, third-party channels.

MS6 - PCI Foundation Program Overview

Saturday, March 7

8:00 a.m. - 10:00 a.m.

Moderator: Marty McIntyre

Speakers: Philip Horton, Arizona State University

Carlos Barrios, Clemson University

Mohammed S. Hashem M. Mehany, Colorado State University

Mustafa Mashal, Idaho State University

Dana Gulling, North Carolina State University

Tristan Al-Haddad, Georgia Institute of Technology

Eric Matsumoto, California State University Sacramento

Kentaro Tsubaki, Tulane University

Robert B. Fleischman, University of Arizona

Matt Shea, University of Colorado, Denver

Glenn Wilcox, University of Michigan

Ben Dymond, University of Minnesota Duluth

Alex Timmer, University of Wisconsin Milwaukee

Professors teaching current PCI Foundation-funded courses will share their work during this session. Presenters will include educators from architecture, engineering, and construction management schools that have developed new curriculum focusing on precast concrete – sometimes through a new course, and sometimes through changes to courses taught in a series. Professors will share student outcomes, information about partnerships with precasters, and their recent successes.

OPERATIONS AND PLANT/INDUSTRY TECHNOLOGIES

NEW! The Precast Show Education includes all education courses, except for Production & Quality School (PQS) and Titan courses, which are available for an additional registration fee.

Operations sessions offer insights to ensure employee engagement throughout your company from the weld shop to the accounting room.

OPER1 – Contract Battles

Thursday, March 5

8:00 a.m. - 9:30 a.m.

Moderator: Gary Semmer, CIC, CWCA, Esser Hayes Insurance Group/Assured Partners

Speakers: Construction Attorney, Bonding/Surety Broker, PCI Members

A case study using an actual contract will be presented, and panelists will discuss how to negotiate the best terms from a financial and risk management standpoint.

OPER2 – Innovations in Precast Concrete

Friday, March 6

8:00 a.m. - 11:00 a.m.

Moderator: Trice Turner

Speakers: Company presenters

Join us in advancing the industry as we present unique solutions that move us beyond “the way things have always been done.” The session will highlight current best practices and emerging technologies being developed for and with the precast concrete industry.

OPER3 – Work Place Violence Prevention

Friday, March 6

8:00 a.m. - 11:00 a.m.

Moderator: Esser Hayes Insurance Group

Speaker: Ray McGury, RJM Strategy Group

Work Place Violence Prevention Session 1 (90 minutes)

This session explores the typical behavioral evolution of an active shooter and identifies behaviors in the work place (or with clientele) that can be predictors of violence. Participants

will learn to recognize potential cues that may indicate an individual is in distress or needs help, and how to respond to an employee exhibiting behaviors that could potentially threaten the safety of others. The session also explores the next steps to address this behavior before it morphs into an active threat/shooter event.

Active Threat/ Shooter Survival

Session 2 (90 minutes)

Training includes a one-hour classroom session followed by practical, hands-on exercises. Case studies are used to briefly review the history of active shooter events, and current best practices and tactics for immediate action during an event are covered and discussed. Multiple interactive scenarios integrate the

first hour's lessons, helping to create a muscle-memory response for violent encounters. A vital aspect of the training is situational awareness, an important life skill. The session encourages participants to ask, "What can I do in my daily life to become more aware of my surroundings and potential threats?" The objective is to foster an "in the present" mentality and mindset.

QUALITY CONTROL & PRODUCTION MANAGEMENT

NEW! The Precast Show Education includes all education courses, except for Production & Quality School (PQS) and Titan courses, which are available for an additional registration fee.

Quality Control courses are appropriate for all levels of personnel. Because commitment to quality is crucial in the precast concrete industry, all precasters are encouraged to attend these courses. Production Management courses are intended for those who have completed concrete production track courses or PQS Level I and those who have baseline industry knowledge and would like advanced training.

QC1 – Mix Design: Controlling Your Mix ■

Friday, March 6

8:00 a.m. – 10:00 a.m.

Marcus Barnett, Hamilton Kent LLC

This course will begin with mix design development by way of the volume method of designing a conventional concrete mix. During the session, we will review the basic understanding of volume-based concrete mix designs that can be sensitive to adjustments made for slump, flow, air and strength. Good control of your mix is crucial to producing quality precast concrete. We will explore the math and chemistry behind determining the mix proportions and how the proper

raw materials, added in the right order and properly mixed, can yield high-quality concrete every time. We will discuss the specific gravity of each batching material, why it is important and the impact it has on mix designs. When you replace cement with a supplementary cementitious material such as fly ash, do you take into account the difference in the specific gravities of the materials replaced? We will review why you must do so and learn to design a self-consolidating concrete mix to limit variation. We will conclude with a segment on proportioning and performance evaluation of self-consolidating concrete.

At the conclusion of this course, you will be able to:

- Summarize best practices when designing a concrete mix
- Discuss the use and impact of materials on your mix
- Interpret performance-based mix designs
- Analyze effects of mix design variations
- Troubleshoot SCC issues and adjust mix designs to limit variation

QC2 – Microbially Induced Corrosion in Wastewater Treatment and Conveyance Structures: An Update on NPCA’s Research ■

Friday, March 6

8:00 a.m. – 10:00 a.m.

Claude Goguen, P.E., LEED AP, NPCA

In 2008, the NPCA MIC Task Force started down a path to learn as much as they could about microbially induced corrosion. After twelve years of meetings, three research projects, numerous site visits and talking to experts from around the globe, the knowledge gained enables our members to design for the conditions that could lead to microbially induced corrosion. During this session, we will share what we’ve learned about this phenomenon. MIC is created by specific environmental conditions. Its presence is regional, but its awareness is vast, often resulting in misperception about its magnitude, diagnosis and causes. We will discuss the results of Purdue University and University of Wisconsin studies on the effects of septic tank design modifications to eliminate MIC. We will also discuss work done by the ASTM C13.03 Subcommittee on Determining the Effects of Biogenic Sulfuric Acid on Concrete Pipe and Structures, which has resulted in an ASTM MIC Guidance Document and some benchtop test methods. Finally, we

will discuss what the NPCA MIC Task Force is doing to help members who may be dealing with this condition in their areas. This session will provide valuable information for QC personnel, plant management and sales staff to preserve precast concrete’s durability.

At the conclusion of this course, you will be able to:

- Identify the primary conditions needed for MIC
- Explain the three phases of MIC development
- Describe the results of three studies on MIC and associated testing
- Explain what measures can be taken to protect precast concrete structures from MIC

QC3 – New Technologies in Precast Manufacturing: A Look Ahead ▲

Friday, March 6

10:00 a.m. – Noon

Tyler Ley, Ph.D., P.E., Oklahoma State University

There’s no question that concrete has been around a very long time, but researchers are continually developing new ways to manufacture and use this amazing construction material. One of those researchers is Dr. Tyler Ley, Oklahoma State University Structural Engineering Professor. Dr. Ley is a recent addition to the list of Most Influential People in the Concrete Industry by Concrete Construction Magazine, and an avid YouTuber on everything concrete.

During this session, Dr. Ley will pull back the curtain on what is new in concrete manufacturing and how it can be applied in precast to enhance your product’s durability. Topics will include new ways to measure air content, permeability, water-cementitious ratio, and new methods of curing. Also included will be a look at an emerging trend in concrete manufacturing – 3D printing. Come and listen to an award-winning educator whose passion for concrete has led him and his students to find new ways to make this durable material even better.

At the conclusion of this course, you will be able to:

- Describe emerging test methods relating to air content, permeability and w/c ratio
- Identify alternatives to commonly used curing methods that may enhance precast concrete durability
- Relate how 3D printing may provide opportunities in the precast industry

QC4 – 5 Things You Can Do to Enhance Your Concrete Durability ■

Friday, March 6

10:30 a.m. – Noon

Fred Aguayo, Ph.D., Texas State University

Concrete, once in service, can be a victim to bullies. These bullies can come in the form of different deterioration mechanisms depending

on material properties and chemistry, concrete quality and uniformity, and exposure conditions. Some of these issues include chloride attack, sulfate attack, alkali-aggregate reactions and freeze-thaw. The good news is precast concrete products can stand up to these threats provided it is manufactured and designed for their intended use and performance. Dr. Fred Aguayo, professor at Texas State University, has focused his studies and research on infrastructure materials engineering. His research includes projects related to durability of concrete, and he will share what he has learned in order to bully-proof your products. He will discuss the conditions that lead to these durability threats and the ensuing mechanisms that can lead to deterioration. He will then share five practices that attendees can apply to achieve and exceed durability expectations. Come learn from a great instructor and an expert in the field.

At the conclusion of this course, you will be able to:

- Identify conditions that can lead to concrete durability threats such as chloride attack, sulfate attack, alkali aggregate reactions and freeze-thaw
- Explain the mechanisms that result from these durability threats and the associated stresses that can lead to concrete deterioration
- Identify accelerated test methods that can be used to evaluate performance from these threats in the lab
- Describe five principles or practices that can offer protection from these threats

QC5 – Tips from an Expert on Preparing for an ACI Certification ●

Saturday, March 7

8:00 a.m. – 9:30 a.m.

Luke Snell, P.E., FAC, Concrete Consultant

The NPCA Quality Control Certification Program and many federal, state and other jurisdictions require that plant QC personnel hold current certificates for American Concrete Institute (ACI) Concrete Field Testing Technician – Grade I. ACI offers many other certifications that may be applicable for QC personnel. The process of getting certified includes taking a written exam and a performance examination. In the case of ACI Concrete Field Testing Technician – Grade I, the exams cover seven ASTM test methods and practices. This can make the experience daunting for those who are new to the industry, or those more than a few years removed from taking written exams. Luke Snell, Emeritus Professor of Construction at Southern Illinois University and concrete consultant, was named one of Ten Most Influential People of the Year in the Concrete Industry by Concrete Construction and Concrete Producer magazines in 2007 and has done extensive work in concrete certifications throughout the world. He will share his wisdom with attendees on how best to prepare for their ACI certification with emphasis on Field Testing Technician Grade I, but much of the information shared could be applied to obtaining other certifications. He will discuss what to expect with the written exams and will

also explain where most applicants fail during performance exams. This information will be valuable to future ACI certified individuals.

At the conclusion of this course, you will be able to:

- Describe the format and expectations for taking ACI Certification Exams
- Identify areas of focus when taking the ACI Field Testing Technician – Grade 1 performance examination
- List five things to do prior to ACI Certification examination day

QC6 – Concrete Testing: Experience and Advice from a World Traveling Concrete Consultant ●

Saturday, March 7

9:45 a.m. – 11:00 a.m.

Luke Snell, P.E., FAC, Concrete Consultant

Doing a slump test in Taiwan. Performing an air test in Mongolia. Making cylinders in Saudi Arabia. Luke Snell, civil engineer and concrete consultant, has been there and done that. He has traveled the world to train and guide concrete manufacturers through many processes, including testing. During this course, he will share his experiences and describe the differences in concrete manufacturing and quality control throughout the world. He will also share what he has seen over many years to spotlight common mistakes when testing fresh or hardened concrete. These errors and missteps

may seem minimal, but they could lead to compromised test results. Mr. Snell will give his tips on how to avoid inconsistencies in testing to minimize variability and enhance quality.

At the conclusion of this course, you will be able to:

- Describe examples of differences in the concrete and specifically the precast concrete industry throughout the world
- Identify common errors in fresh and hardened concrete testing that may lead to false test results
- Demonstrate ways to increase consistency in precast plant quality control testing

QC7 – Preventative Maintenance of Your Precast Plant Equipment ●

Saturday, March 7

10:00 a.m. – 11:00 a.m.

Andrew Hayward, P.E., Panhandle Concrete Products Inc.

The key to producing quality precast concrete products is having the right equipment for the job. Going hand in hand with the right equipment are proper inspection and maintenance to ensure the quality of the finished product is not compromised. This session will discuss the importance of checking equipment such as pouring

buckets, air compressors, molds, batch plants and lifting hardware. It's important to have a preventative maintenance plan in place to lengthen the life of your plant's equipment and to identify equipment needing repair before breakdowns interrupt the batching process.

At the conclusion of this course, you will be able to:

- Recognize the importance of regular preventative maintenance of precast plant equipment
- Identify when to repair vs. replace equipment

QC8 - Responding to the Building Market: The New PCI Architectural Precast Certification Requirements

Thursday, March 5

10:00 a.m. – 11:30 a.m.

Moderator: Ken Kwilinski

Speakers: Scott Robinson, Midwest Sales Manager, Gate Precast

Mike Kesselmayr, P.E., Managing Director, Quality Programs, PCI

In response to feedback from top US architects, PCI has improved the PCI Architectural Certification Program to make products from PCI-certified producers the best fit for today's aesthetic and performance demands. If you are a PCI-certified architectural

precast concrete producer, you will want to attend this session to understand the necessary steps to obtain initial certification in one of the new program categories.

Attendees will:

- Learn about the four newly created categories for architectural certification;
- Find out how these program changes affect the PCI plant audit process for all PCI-certified architectural plants;
- Learn about educational and promotional tools producers can use to help designers choose the best architectural certification category to meet their specific project requirements; and
- Understand the initial certification process and associated requirements to meet the critical April 1, 2020, deadline.

TECHNICAL

NEW! The Precast Show Education includes all education courses, except for Production & Quality School (PQS) and Titan courses, which are available for an additional registration fee.

From R&D to code development, technical sessions will keep you abreast of the latest technical information within our industry, including new standards and updates on current research that form the foundation for our body of knowledge.

TECH1 - PCI Standards Development and Adoption

Thursday, March 5

8:00 a.m. – 9:30 a.m.

Moderator: Edith Smith

Speakers: S.K. Ghosh, S.K. Ghosh

Associates

Jared Brewe, Simpson Gumpertz & Heger

This session will provide an overview of code updates incorporated in the 2021 IBC, and summarize PCI's ongoing efforts to develop standards for precast concrete design and construction.

TECH2 - Commercial Precast Concrete Construction in Japan

Thursday, March 5

8:00 a.m. – 9:30 a.m.

Moderator: Professor Minehiro

Nishiyama, Kyoto University

Presenters will update attendees on current precast concrete technologies in Japanese building construction.

Prestressed Precast High-Rise Buildings with High-performance Seismic Isolation in Japan

Mr. Shuya Futatsugi, Takenaka

Corporation(GC)

Design and Construction of Medium and Low-Rise Precast Concrete Housing

Mr. Shozo Fujioka, Ken Ken(Precast Producer)

Examples of Precast Prestressed Concrete Tsunami Evacuation Facilities in Japan

Mr. Kenji Yoshinag, PS Mitsubishi Construction Co., Ltd. (Precast Producer)

Mr. Masatoshi Imono, Obayashi Corporation(GC)

TECH3 - Precast Concrete Construction in Korea

Thursday, March 5

10:00 a.m. – 11:30 a.m.

Moderator: Jack Yoon, Nitterhouse Concrete Products

Applications of precast concrete in Korea include various products in various types of construction. Portal frame, double wall, and core construction in residential and industrial applications will be presented.

A Study on the PC Modular Structure using Portal Frame
Sangsup Lee and Kyuwoong

Bae, Korea Institute of Civil Engineering and Building Technology

Introduction of Double Wall System for Residential Building in Korea Market

Kangcheol Lee, Sampyo P&C

A Case of PC Core Construction in Semiconductor Plant

Sungheop Hong, Camus E&C

Hyounggyo Lee, SK E&C Co. Ltd

TECH4 - Precast Concrete Transportation Construction in Japan

Friday, March 6

8:00 a.m. – 9:30 a.m.

Moderator: Professor Hiroshi

Mutsuyoshi, Saitama University

Presenters will update attendees on current precast concrete technologies in Japanese transportation construction.

Present Situation of Precast Concrete in Infrastructure Engineering, Japan

Professor Hiroshi Mutsuyoshi, Saitama University

Japan's Approach to Promote

**Precast Concrete by Setting
Design Guideline of JSCE Concrete
Committee**

*Mr. Tetsuya Kono, Kajima
Corporation(GC)*

**Application of Precast PC Slab in
the Rehabilitation of Steel Road
Bridges in Japan**

*Mr. Osamu Sanada, Nexco (Japanese
Highway Administration
Company)*

**TECH5 - Precast
Concrete Construction
in Italy**

*Friday, March 6
10:00 a.m. – 11:30 a.m.*

Innovations in precast concrete
in Italy will be described in three
presentations.

**Innovative Technologies for Post
Compression and Multi-Axial and
Fire-Resistant Self Prestressing**

*Antonio Nanni, University of
Miami, Claudio Subacchi, FSC
Technologies LLC*

**Structural Applications with Fiber
Reinforced Concrete**

*Giovanni Plizzari, University of
Brescia*

Precast Innovations in Italy

Rinaldo Pinchioli, CSG Engineering

**TECH6: Materials for
Precast/Prestressed
Concrete Construction**

*Thursday, March 5
8:00 a.m. – 11:30 a.m.*

Moderator: Venkatesh Iyer

Speakers: Jeff West

Maggie Becker

Amir Bonakdar

John Lawler

Charles Nmai

Pablo Moyano Fernandez

Miles Zeeman

Micah Hale

Presenters at this session will discuss materials for prestressed concrete, including their advantages, new material properties, construction methods, and how to implement them in plants. Seven presentations are planned on the following topics: bond/horizontal shear for topping systems, ultra-high-performance concrete, fiber-reinforced concrete, and admixtures and concrete rheology for precast/prestressed applications.

**TRANS1 - Presentation
on AASHTO-T10
Research and Related
T-10 Ballot Topics**

*Thursday, March 5
4:00 p.m. – 5:30 p.m.*

Ongoing National Cooperative
Highway Research Program projects
will be presented to AASHTO
Committee T-10 (Concrete Design) by
the research teams.

**TRANS2 - Update on
PCI Bridge Related
Research**

*Friday, March 6
8:00 a.m. – 9:30 a.m.*

During this session, speakers will share progress made on PCI-funded bridge research under the Dennis R. Mertz Bridge Research Fellowship, the Daniel P. Jenny Fellowship, and PCI's major research investment programs.

TRANS3 - Concrete Anchorage Implementation Post Pilot

Friday, March 6

10:00 a.m. – 11:30 a.m.

PCI was selected to develop a one-day workshop to facilitate the Implementation of National Cooperative Highway Research Program (NCHRP) Report 639: Adhesive Anchors in Concrete Under Sustained Loading Conditions and NCHRP Report 757: Long-Term Performance of Epoxy Adhesive Anchor Systems. As part of this contract, the team will be piloting two workshops in February 2020, with the goal of receiving input from state highway agencies. The host agency for Pilot 1 is the Idaho Transportation Department, and the host agency for Pilot 2 is the Texas Department of Transportation. The 8th edition of the AASHTO LRFD Bridge Specifications includes a direct reference to ACI 318-14 Chapter 17, and this 90-minute executive summary of the full-day workshop will inform attendees why this specification was changed and how an owner may wish to implement this latest revision to the LRFD code.

RD1 - PCI Research Update

Friday, March 6

8:00 a.m. – 9:30 a.m.

Progress reports on several PCI research projects will be presented.

Performance of Double Tee Flange Connections and Joint Leakage for Parking Structures

Rafal Anay, University of South Carolina

Ductile High Strength Steel Coiled Strips as Confinement Reinforcement for the Accelerated Construction of Precast Structures

Ashley Thrall and Anne O'Donnell, University of Notre Dame

Behavior of Precast Bridge I-Girders with Anchored Pre-Saturated CFRP Laminates Strengthening

Nur Yazdani, University of Texas

Education Program Policy

Educational sessions are noncommercial forums. Speakers are expected to refrain from using brand names and endorsing specific products. Educational sessions are not to be used for direct promotion of a speaker's product, service or monetary self-interest. Speakers at all sessions must refrain from overt statements, harsh language or pointed humor that harms the rightful dignity and social equity of any individual or group. Please note any violation of this policy on session evaluation forms or let any NPCA or PCI professional staff member know.

SPONSORED EDUCATION

TITAN – Titan II Power User

Wednesday, March 4

3:00 p.m. – 5:30 p.m.

**Full Package or Committee and
The Precast Show Education
Package Member: \$125**

Trade Show Only Member: \$185

**Full Package or Committee and
The Precast Show Education
Package Non-member: \$145**

**Trade Show Only
Non-member: \$225**

Created for the sales representative, estimator, engineer, production scheduler, dispatcher, QC inspector/manager, inventory manager and all accounting personnel, this course will have something for everyone who works with the Titan II Precast Management System. All new modules and enhancements added to Titan

within the last year will be reviewed and demonstrated. Additionally, we will discuss helpful tools and features that are classic time-savers. Attendees are sure to come away with ideas and methods to immediately improve the processes within their precast company. Attendees receive 1 Credit towards TGC.

- Contractor Hub Service
 - o Review of New Mobile Apps
 - o Review of Contractor Hub Enhancements
- System Audit Manager (SAM)
 - o SAM Overview
 - o Benefits of SAM
 - o Review of SAM Types
 - o Available SAM Reports
- Quality Control Module (QCTitan)
 - o Mobile App Features
 - o Reporting Features
- Accounting Features
 - o Using Credit Reasons
 - o Finance Charge Enhancements
 - o Other New Features/Reports
- VT3000 Enhancements
- Sales Dashboard Enhancements
- Reviewing Booked Jobs using the Quote Manager
- Production Entry Enhancements
- Visual Estimator Enhancements
- Visual Bay Enhancements
- Custom Report Writer Enhancements
- Classic Time Saving Features
- Other New Features



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