



# ICRI Gulf South Chapter & SEAoAL Conference & EXPO Concrete Restoration & Repair TUESDAY, DECEMBER 6, 2016 TOTAL OF 6.5 PDHS (APPROVED IN AL & FL)



8:00 a.m. — 8:15 a.m.	Registration & Morning Expo
8:15 a.m. — 9:45 a.m.	Tools for Condition Assessments, Jacob Bice
9:45 a.m. — 10:15 a.m.	Break & Technology Expo
10:15 a.m. — 11:15 a.m.	Repair Project Best Practices for Developing and Managing Project Scope, Jerry Phenney
11:15 a.m. — 11:45 a.m.	Corrosion Mitigation, Will Gold
11:45 a.m. — 12:45 p.m.	Buffet Lunch & Technology Expo
12:45 p.m. — 1:45 p.m.	Contracting of Concrete Repairs, Jerrub Hammrich
1:45 p.m. — 2:00 p.m.	Break & Technology Expo
2:00 p.m. — 3:00 p.m.	FRP Strengthening Systems, Will Gold
3:00 p.m. — 3:15 p.m.	Break & Technology Expo
3:15 p.m. — 4:45 p.m.	New ACI Standards & the Repair of Existing Concrete Structures, Chuck Larosche
4:45 p.m. — 5:00 p.m.	Forum with Speakers

#### Tools for Condition Assessments

Structural engineers face unique challenges when developing structural repair solutions for existing buildings and buildings under construction. These challenges often are unknown extents or causes of distress, uncertainty about the as-built construction and/or condition of a given structure, and the need to provide economical, targeted, and effective evaluations and repair solutions. An appropriate methodology for developing repairs incorporating a structural assessment that utilizes appropriate visual observations, laboratory materials testing, and nondestructive evaluation (NDE) of structures offer engineers valuable tools for characterizing the as-built conditions of structures and inform decisions by the owner, contractor, architect, and engineer. This presentation provides a brief overview a typical approach to developing repairs, common assessment techniques, and a series of repair case studies.

#### Repair Project Best Practices for Developing and Managing Project Scope

ICRI Guideline 320.2R-2009, formerly 03733, produced by ICRI Committee 320, provides guidance to aid the designer, specifier, contractor and manufacturer to make decisions in selecting materials for the repair of concrete surfaces. It further outlines selecting concrete repair materials considering bond strength, constructability, dimensional behavior, durability, material selection and test methods. This presentation will discuss structure components and the identification/prioritizing of repair material performance requirements. Case studies will also be presented.

#### Corrosion Mitigation

Corrosion of reinforcing steel remains the primary reason for the deterioration of concrete structures. Strategies for mitigating corrosion in existing structures have become an important component of many concrete repair projects. This presentation will provide a general overview of several common corrosion mitigation techniques. Methods for executing these techniques along with the benefits and limitations of the various techniques will be discussed.

#### Contracting of Concrete Repairs

For repair projects it is best to set up repair documents to ensure bidders are bidding the same scope of work, and this requires the project is broken into quantifiable scope units when appropriate, using special consideration for unit allowances/prices and accuracy of unit allowances. In the letting of the project, Low Bid vs. Low Qualified Bid vs. Design Build must also be considered. Finally, after awarding the project, Management of Project Scope is critical to a successful project. This presentation will discuss these phases of a repair project with more detail and include case-study examples.

#### FRP Strengthening Systems

The fiber reinforced polymer (FRP) composite materials used for decades in the aerospace industry are now being used to strengthen existing concrete structures. The use of these materials as external reinforcement for concrete structures has become the preferred method strengthening over more traditional techniques like section enlargement, external post-tensioning and steel plate bonding. Whether used to increase the load bearing capacity of a structure, to restore loss of capacity from damage or deterioration, or for seismic retrofit or blast hardening; FRP strengthening systems offer a simple, cost-effective method to address structural deficiencies. This presentation will introduce the unique characteristics of FRP materials, the forms typically utilized in strengthening applications, and general design considerations and limitations. In addition, case studies will be used to illustrate the use of this technology in typical applications.

#### New ACI Standards and the Repair of Existing Concrete Structures

The American Concrete Institute (ACI) has recently published ACI 562-16 -"Code Requirements for Assessment, Repair and Rehabilitation of Existing Concrete Structures" (ACI 562-16) and will soon publish ACI 563 -"Specifications for Concrete Repair." The new documents will significantly advance the state of practice in repair of existing concrete structures. ACI 562-16 was specifically developed to provide design professionals involved with existing concrete structures a code document to assess damage and deterioration in concrete structures and to develop appropriate repair and rehabilitation strategies, and can function with the International Existing Building Code (IEBC) or as a stand-alone code. ACI 563-16 provides design professionals with specifications with specifications for common types of structural repairs. The presentation will include specific case-study examples that describe how use of the new standards and present advantages to their use on concrete repair projects.

# REGISTRATION FORM

Please print legibly. Companies with multiple attendees, please fill out a form for each person.  
No refunds will be given after December 1st.

Name	Company	
Address	City	Zip
Email	Phone	Cell

## Registration received by Nov. 25, 2016

- SEA/ICRI Member \$ 160 X \_\_\_\_\_ = \$ \_\_\_\_\_
- Non Member \$ 190 X \_\_\_\_\_ = \$ \_\_\_\_\_
- Exhibitor \$ 130 X \_\_\_\_\_ = \$ \_\_\_\_\_



## Late Registration: Nov. 25 - Dec. 6, 2016

- SEA/ICRI Member \$185 X \_\_\_\_\_ = \$ \_\_\_\_\_
- Non Member \$ 220 X \_\_\_\_\_ = \$ \_\_\_\_\_
- Exhibitor \$ 155 X \_\_\_\_\_ = \$ \_\_\_\_\_

Registration includes breakfast, lunch, snacks, coffee bar and expo hall.

## To join SEAoAL

SEAoAL membership is open to all structural engineers and companies affiliated with the structural engineering profession. For more info, visit [www.seaoal.com](http://www.seaoal.com)

- Professional \$ 95 X \_\_\_\_\_ = \$ \_\_\_\_\_
- Associate \$ 40 X \_\_\_\_\_ = \$ \_\_\_\_\_
- Student \$ 15 X \_\_\_\_\_ = \$ \_\_\_\_\_
- Affiliate \$150 X \_\_\_\_\_ = \$ \_\_\_\_\_

TOTAL: \$ \_\_\_\_\_

## **If paying by check, make checks payable to:**

**SEAoAL**

Mail check and registration form to:

**Structural Engineers Association  
of Alabama  
P.O. Box 660584  
Birmingham, AL 35266-0584**

**Email registrations to:**  
[rhea@karmamanagementinc.com](mailto:rhea@karmamanagementinc.com)

**Rhea Williams**  
Executive Director, SEAoAL

## **SEMINAR LOCATION**

**AGC Alabama  
5000 Grantswood Road  
Suite 100  
Irondale, AL 35210  
205-451-1400  
[www.alagc.org](http://www.alagc.org)**

## **To join ICRI**

Join ICRI and ICRI Gulf South Chapter as an Individual Member for \$220 at [www.icri.org](http://www.icri.org).

Other memberships available: Student (\$50), Retired (\$130), Government (\$130), Company (\$420-\$2035) and Supporting Memberships (\$3,320). Annual membership includes \$40 membership dues to Gulf South Chapter. **See ICRI website or flyer for more information.**



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## Seminar Instructors

**William J. Gold, P.E., FACI** is the Engineering Services Manager for BASF Corporation – Construction Systems in Cleveland, Ohio. Mr. Gold has over 20 years of experience in concrete repair and protection and in the use of advanced composite materials in the concrete industry. He has had extensive involvement in the design and installation of FRP systems for strengthening existing structures including strengthening the Amazon.com headquarters building after the Nisqually earthquake and the protection of the Lake Pontchartrain Causeway in New Orleans. He has published several papers on strengthening structures with FRP and has given numerous lectures on evaluation and strengthening of existing concrete structures. Mr. Gold holds a Bachelor's degree in Architectural Engineering from the University of Kansas and a Master's degree in Structural Engineering from the Pennsylvania State University. He is a Fellow of the American Concrete Institute and actively involved in the International Concrete Repair Institute, ASTM, and the Canadian Standards Association.

**Carl J. "Chuck" Larosche, P.E.**, is a Principal in the Austin office of Wiss, Janney, Elstner Associates, Inc. (WJE), an employee-owned architectural and engineering firm, where he leads the Structural Engineering Practice Area Group. With more than thirty years of experience, Chuck is an industry leader in the fields of preservation and restoration of historic and existing structures, structural design, and investigation and evaluation of existing structures and materials; however, Chuck is equally well known for his contributions to the field of engineering and mentoring young engineers as he is for his engineering capabilities. Mr. Larosche's diverse background includes structural design, investigation, and evaluation of existing structures and materials. He has successfully combined his broad construction background with his knowledge of material behavior in existing structures to provide rare insight and knowledge in the area of masonry, conventional reinforced concrete, pre-cast and post-tensioned concrete and steel evaluation, including strengthening and repair of these materials. Chuck is actively involved in several Professional Organizations, including various committees of the American Concrete Institute (ACI). Chuck was elected as an ACI Fellow in 2016. He is the Chair of ACI 437, Strength Evaluation of Existing Concrete Structures, Secretary of ACI E702, Designing Concrete Structures, Secretary of ACI 349/359, Concrete Nuclear Structures and Concrete Components for Nuclear Reactors, and Sub-committee Chair of ACI 562, Evaluation, Repair, and Rehabilitation of Concrete Buildings. He authored several publications including Inspection, Testing, and Monitoring of Buildings and Bridges and Failure, Distress and Repair of Concrete Structures. Chuck received his Bachelors of Science in Civil Engineering and his Masters of Science in Structural Engineering from the University of Texas at Austin.

**Jacob Bice, PhD. P.E.**, is a Principal and Managing Director of the Diagnostics Group at Walter P Moore and Associates in Dallas, Texas. He received his bachelors and masters in Civil Engineering from Texas Tech University in Lubbock, TX and his Ph.D. from Purdue University in 2006. Dr. Bice leads a diverse team of structural engineers and building scientists to solve complex problems in existing buildings and structures. He also developed Walter P Moore's nondestructive testing services for the Diagnostics Group and has performed evaluations and testing, analyses, and developed designs for repairs of existing structures throughout the United States and Canada. He is Chair of ACI Committee 224: Cracking and a member of Committee 228: Nondestructive Evaluation of Concrete and Committee 601-C: Nondestructive Testing Technician Certification, and Sub-Committee 228-B Visual Inspection.

**Jerry Phenny**, is the National Specification and Commercial Project Manager for CRS of Mapei Corporation, and is responsible for promoting and implementing MAPEI Concrete Restoration Systems (CRS) on the National level via Large Commercial Projects and National Accounts. He further acts as a resource for Engineers, Architects and Consulting firms by assisting in specification writing. Mr. Phenny also interacts with Property Owners, General Contractors and Specialty Subcontractors to develop and secure orders. Jerry is also President of the Northern Ohio Chapter of the International Concrete Repair Institute. His immediate past experience was as a Senior Design Engineer at Barber and Hoffman, Inc. in Cleveland, Ohio, where he was responsible for developing and maintaining clients relating to repair and restoration of Parking Garage, Stadiums and Building Facades. He further performed Condition Appraisals, prepared Construction Documents and Performed Construction Administration activities during the repair phase.

**Jerrub Hammrich**, is the Business Development Manager for Structural Group Inc. He is responsible for developing and implementing plans and strategies to ensure the growth, feasibility and business success of the commercial and industrial construction divisions within STRUCTURAL GROUP, working closely with the construction management team and office staff to ensure success in the marketplace, initiating communication with potential clients, making presentations and attending networking and business functions. At Structural while Project Manager, Mr. Hammrich's responsibilities included providing strong leadership and guidance to field and site superintendents and foreman. He led, managed and scheduled project teams including superintendents, project coordinators, subcontractors and others to ensure all work was completed on time, within budget and in accordance with development and contract documents.