



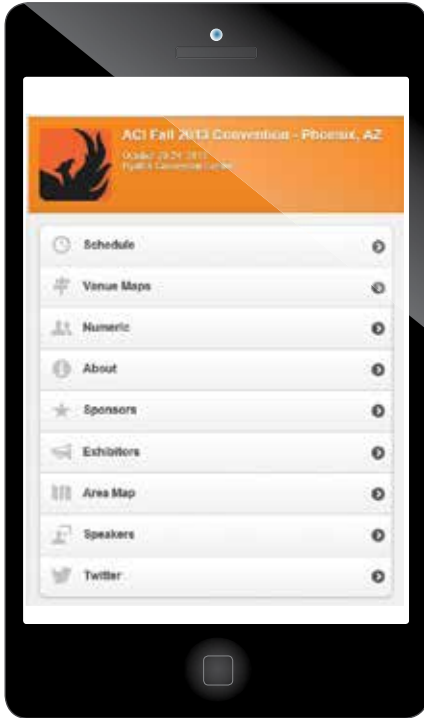
American Concrete Institute Convention Program Book

October 20-24, 2013
Phoenix, AZ
Hyatt Regency and
Phoenix Convention Center



Download the Convention Mobile App!

Available on the Apple App Store and the Google Play Store.



Get up-to-the-minute convention updates, plan your schedule, and learn about exhibitors and sponsors—all at your fingertips!



ACI on Social Media



Use #aciconvention on your favorite social media site to stay connected with other attendees and share your experiences!

Table of Contents

ACI Fall 2013 Convention

October 20–24, 2013
Hyatt Regency and Phoenix Convention Center
Phoenix, AZ

ACI Arizona Chapter 2013 Officers and Board of Directors.....	9
ACI Phoenix Chapter Convention Committee.....	10
ACI President’s Welcome	3
ACI Registration.....	11
ACI Sustaining Members	6
ACI Board of Direction	2
Concrete Mixer.....	130
Contractors’ Day Lunch.....	121
Convention Sponsors.....	8
Daily Program.....	37
Event Details	81
Exhibitor Demonstrations.....	36
Exhibitor Floor Plan.....	23
Exhibitors	27
General Information	11
Governor’s Letter.....	4
International Lunch	85
Maps.....	20-26
Mayor’s Letter.....	5
Membership Information.....	12
Numerical Committee Meeting List	67
Opening Reception	92
Opening Session & Awards Program	92
Session Attendance Tracking Form	137
Student Competition.....	84
Student Lunch.....	104
Tours and Guest Events	82, 84, 100, 108, 113, 115, 134
Transportation	15
Where’s That Meeting Room.....	19

American Concrete Institute Board of Direction

President

Anne M. Ellis

Vice Presidents

William E. Rushing Jr.

Sharon L. Wood

Directors

Neal S. Anderson

Khaled Awad

Roger J. Becker

Dean A. Browning

Jeffrey W. Coleman

Robert J. Frosch

James R. Harris

Cecil L. Jones

Cary Kopczynski

Steven H. Kosmatka

Kevin A. MacDonald

David M. Suchorski

Past Presidents

James K. Wight

Kenneth C. Hover

Florian G. Barth

Executive Vice President

Ronald Burg

ACI President's Welcome

ACI members and guests:

Welcome to Phoenix and the ACI Fall 2013 Convention, Innovation in Conservation!

ACI's conventions are the destination for leaders from around the world. Whether a student leader, professional leader, or leader of your craft, the ACI convention provides educational opportunities for personal betterment, committee opportunities for technical advancement, and networking opportunities for professional enrichment. The opportunities are numerous with over 300 committee meetings, 50+ technical sessions, two student competitions, and numerous networking events culminating with the Concrete Mixer on Tuesday night.



ACI and the ACI Arizona Chapter have put a great deal of effort into developing a convention program that is both memorable and productive. I thank the ACI Arizona Chapter for its dedication in planning this convention. If you have a good time this week, be sure to stop by the host chapter desk and let them know.

On behalf of Marc and myself, we are honored and excited to be able to share this week with you, and we hope you will enjoy all that Phoenix has to offer. Thank you for attending the convention and for your continued involvement with ACI.

Kind regards,

A handwritten signature in black ink that reads "Anne M. Ellis". The signature is written in a cursive, flowing style.

Anne M. Ellis
ACI President

Governor's Letter



STATE OF ARIZONA

JANICE K. BREWER
GOVERNOR

EXECUTIVE OFFICE

October 2013

Welcome!

As Governor of the State of Arizona, it is my pleasure to welcome you to the American Concrete Institute (ACI) Fall 2013 Convention – *Innovation in Conservation*.

ACI is committed to developing and sharing the knowledge and information needed to utilize concrete to its full potential. This year's ACI convention will include approximately 50 sessions and more than 200 speakers and will provide an opportunity to network with experts and colleagues within the concrete industry.

I invite you to take time to visit and enjoy everything Arizona has to offer. From the Grand Canyon in the north to the saguaro forests of the south, with the red rocks of Sedona in between, Arizona's spectacular landscapes are waiting for you. The State's 22 sovereign Native-American nations contribute to a unique blend of contemporary and traditional cultures, celebrating Arizona's past and present -- as artists blend Old West and Native American heritages into treasures of creative work, from all eras and in all genres, showcased in galleries, museums, and public places throughout the State.

Best wishes for a successful convention. Once again, welcome and enjoy your visit to Arizona – the Grand Canyon State!

Sincerely,

A handwritten signature in cursive script that reads "Janice K. Brewer".

Janice K. Brewer
Governor

1700 WEST WASHINGTON STREET, PHOENIX, ARIZONA 85007
602-542-4331 • FAX 602-542-7602

Mayor's Letter



City of Phoenix

OFFICE OF THE MAYOR

MAYOR GREG STANTON

Greetings!

On behalf of the City of Phoenix, I extend my warmest welcome to everyone attending the American Concrete Institute's 2013 Convention.

Founded in 1904, the American Concrete Institute (ACI) is committed to developing and sharing the knowledge and information needed to utilize concrete to its full potential. Through seminars, certification programs, student scholarships and the publishing of technical documents; ACI is advancing concrete knowledge for its nearly 20,000 members in 120 countries around the world.

This year's ACI Convention will include approximately 50 sessions and more than 200 speakers. It provides an opportunity for attendees to network with experts and colleagues within the concrete industry in a professional development setting.

I hope while you are visiting our great city you will have the chance to experience the robust redevelopment that has gone on in downtown Phoenix over the last few years including our new convention center, hotels, light rail, dining, retail and the addition of other unique venues.








Again welcome to Phoenix and best wishes for a successful and informative convention.

Sincerely,

Greg Stanton
Mayor

ACI Sustaining Members

 <p>ACS MANUFACTURING CORPORATION</p> <p>ACS Manufacturing Corporation</p>
 <p>ACTS ADVANCED CONSTRUCTION TECHNOLOGY SERVICES</p> <p>Build on our credentials</p> <p>Advanced Construction Technology Services</p>
 <p>ASH GROVE</p> <p>Ash Grove Cement Company</p>
 <p>ASHFORD FORMULA THE BASIC RECIPE FOR YOUR CONCRETE</p> <p>Ashford Formula</p>
 <p>BAKER CONCRETE CONSTRUCTION expect more</p> <p>Baker Concrete Construction, Inc.</p>
 <p>BARRIER ONE INCORPORATED HIGH PERFORMANCE CONCRETE ADJUSTURE</p> <p>Barrier-1 Inc.</p>
 <p>BASF The Chemical Company</p> <p>BASF Corporation</p>

 <p>Concrete Solutions</p> <p>BCS</p>
 <p>BUZZI</p> <p>Buzzi Unicem USA</p>
 <p>CANTERA CONCRETE COMPANY "Measured Quality"</p> <p>Cantera Concrete Company</p>
 <p>CECO</p> <p>CECO Concrete Construction</p>
 <p>CHRYSO</p> <p>CHRYSO, Inc.</p>
 <p>CRSI</p> <p>Concrete Reinforcing Steel Institute</p>
 <p>CTLGROUP Building Knowledge. Delivering Results.</p> <p>CTLGroup</p>

 <p>DAYTON SUPERIOR</p> <p>Dayton Superior</p>
 <p>DUCTILCRETE SLAB SYSTEMS LLC</p> <p>Ductilcrete</p>
 <p>EUCLID CHEMICAL</p> <p>The Euclid Chemical Co.</p>
 <p>FIBERCON INTERNATIONAL</p> <p>Fibercon International, Inc.</p>
 <p>FTC FUTURE TECH CONSULTANTS Construction Materials Engineering, Inspection & Testing Services</p> <p>Future Tech Consultants</p>
 <p>GRACE</p> <p>W.R. Grace & Co.</p>
 <p>HEADWATERS RESOURCES</p> <p>Headwaters Resources, Inc.</p>
 <p>Holcim</p> <p>Holcim (US) Inc.</p>

ACI Sustaining Members

 <p>Keystone Structural Concrete, LLC</p>
 <p>Kleinfelder</p>
 <p>Lafarge North America</p>
 <p>Lithko Contracting, Inc.</p>
 <p>Meadow Burke</p>
 <p>W. R. Meadows, Inc.</p>
 <p>Metromont Corporation</p>
 <p>MTL</p>

 <p>Municipal Testing</p>
 <p>North S.Tarr Concrete Consulting PC</p>
 <p>Oztec Industries, Inc.</p>
 <p>Pacific Structures</p>
 <p>Penetron International Ltd.</p>
 <p>PGESCO</p>
 <p>Portland Cement Association</p>
 <p>Precast/Prestressed Concrete Institute</p>

 <p>Schmitt Technical Services, Inc.</p>
 <p>Sika Corp.</p>
 <p>S.K. Ghosh Associates, Inc.</p>
 <p>STRUCTURAL</p>
 <p>Structural Services, Inc.</p>
 <p>Triad Engineering, Inc.</p>
 <p>TWC Concrete Services</p>
 <p>Wacker Neuson</p>
 <p>Westroc, Inc.</p>

Convention Sponsors

Sponsors are listed as of 9/13/13

Special Convention Sponsor

ACI Arizona Chapter

The Phoenix Sponsor

Baker Concrete Construction

Drake Cement, LLC

Suntec Concrete

Gila Monster Sponsor

BASF Corporation

CalPortland Company

CEMEX

The Euclid Chemical Company

Grace Construction Products

Salt River Materials Group (SRMG)

Roadrunner Sponsor

ACI Missouri Chapter

Arizona Builder's Exchange

Arizona Materials, L.L.C.

Hanson Aggregates

Sundt Construction

Coyote Sponsor

ACI Carolinas Chapter

ACI Greater Michigan Chapter

ACI National Capital Chapter

ACI Northern California &

Western Nevada Chapter

ACI Pittsburgh Area Chapter

ACI South Texas Chapter

Hardrock Concrete Placement Co., Inc.

L.R. Cowan Concrete Co., Inc.

Lafarge North America

Luke & Billie Snell

Oremus Materials, Inc.

Silica Fume Association

Simpson Strong-Tie

Speedie & Associates

Western Technologies, Inc.

Diamondback Sponsor

ACI Central Florida Chapter

ACI Eastern Pennsylvania and
Delaware Chapter

ACI Florida Suncoast Chapter

ACI Houston Chapter

ACI Illinois Chapter

ACI Intermountain Chapter

ACI Kansas Chapter

ACI Las Vegas Chapter

ACI Louisiana Chapter

ACI Mid-South Chapter

ACI New Jersey Chapter

ACI New Mexico Chapter

ACI Northeast Texas Chapter

ACI Rocky Mountain Chapter

ACI San Diego International Chapter

ACI Southern California Chapter

Concrete Industry Board, an ACI NYC Chapter
CRSI

Fleming & Sons Concrete Pumping, Inc.

FORTA Corporation

Jaber Engineering Consulting, Inc.

Kleinfelder

Western Concrete Pumping, Inc.

Scorpion Sponsor

ACI Arkansas Chapter

ACI Minnesota Chapter

ACI Washington Chapter

Brundage-Bone Concrete Pumping

Meyer Borgman Johnson

Prickly Pear Sponsor

Arizona Foundation Solutions

Ninyo & Moore

Beer/Margarita Garden Sponsor

Headwaters MB

Speedie & Associates

Registration Bag Sponsor

Imagination, Inc.

Jaber Engineering Consulting, Inc.

Lanyard Sponsor

S-Frame Software

ACI Arizona Chapter 2013 Officers and Board of Directors

President

Angelo Trujillo, BASF

Vice President

Jeff Miller, Sundt Construction

Past President

Jason Straka, CEMEX

Secretary

James Rogers, ACI Arizona Chapter

Treasurer

Teresa Coleman, Arizona Materials, L.L.C.

Executive Director

Dawn L. Rogers, ACI Arizona Chapter

Directors

Angela M. Brown, Cal Portland Company

Jennifer Monson, CEMEX

Luke M. Snell, Western Technologies Inc.

Tom Villa, Rock Solid

Clinton R. Wilkins, Salt River Materials Group

Derek Wright, Suntec Concrete Inc.

ACI Phoenix Chapter Convention Committee

Tri-Chairs

Dawn Rogers, ACI Arizona Chapter
Teresa Coleman, Arizona Materials, L.L.C.
Jennifer Monson, CEMEX

Contractors' Day

Jim Rogers, ACI Arizona Chapter
Tony Polusny, Meyer Borgman Johnson
Luke Snell, Western Technologies Inc.

Fundraising

Teresa Coleman, Arizona Materials, L.L.C.

Guest Program

Billie Snell
Terri Castles

Publicity

Angelo Trujillo, BASF Corporation
Paul Radtke, Drake Cement, LLC

Secretary

Billie Snell

Treasurer

Bryan Castles, Western Technologies Inc.

Social Events

Beth Britt, First Team

Student Program

Jim Ernzen, ASU Concrete Industry Management
Robin Tuchscherer, Northern Arizona University

Exhibits

Mike Jones, Salt River Materials Group
Kristi Lattin, Drake Materials, LLC
Dan Eberle, E2 Estimating

Technical Program

Tarif Jaber, Jaber Engineering Consulting, Inc.
Jim Rogers, ACI Arizona Chapter
Luke Snell, Western Technologies Inc.
Bryan Castles, Western Technologies Inc.

Roving Members

Matt Rogers, Suntec Concrete
Matt Marcus, Ninyo & Moore
Robert Barkley, Hanson
Jennifer Porter, Hanson

General Information

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

ACI REGISTRATION—C-301 A&B

ACI staff is available to answer your convention questions at the ACI Registration Desk during the following hours:

Saturday	12:30 pm - 6:00 pm
Sunday	7:30 am - 5:00 pm
Monday	7:30 am - 5:00 pm
Tuesday	7:30 am - 5:00 pm

NAME BADGES

ACI uses color-coded name badges to identify attendees. Name badges are as follows:

Member	Blue
Attendee	Black
Fellow	Green
Honorary Member	Red
Staff	Orange
Guest	Tan
Student	Green ribbon

ATTENTION, ACI ATTENDEES!

First-time convention attendees have a “Convention #1” ribbon on their name badge. Please welcome them to the convention!

SCHEDULE CHANGES — ACI REGISTRATION—C-301 A&B

Cancellations, additions, and location changes to the convention schedule will be posted daily on a monitor in the exhibit area at the Phoenix Convention Center. All changes will be updated in the convention mobile app as they occur.

EMERGENCIES

In the event of an emergency, we kindly request that you do NOT dial 9-1-1. Please go to the nearest house phone to contact the operator by dialing “0” or security at extension “66” at the [Hyatt Regency Phoenix](#). Please dial “85” from the house phone to reach security at the [Phoenix Convention Center](#).

PHOTOGRAPHS/VIDEOS

ACI will take photographs and video during the ACI Fall 2013 Convention and reproduce them in ACI educational, news, or promotional material—whether in print, electronic, or other media—including the ACI website. By participating in the ACI Fall 2013 Convention, you grant ACI the right to use your name, photograph, and biography for such purposes. Please note: Photographing, audio recording, and videotaping a presentation or speaker is prohibited without the presenter’s prior written consent.

General Information

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

BREAKS

Beverages are available courtesy of ACI during the following hours:

C-301 A&B

Saturday	Soda	2:00 pm - 6:00 pm
Sunday-Tuesday	Coffee	7:00 am - 10:00 am
	Soda	11:00 am - 2:00 pm
	Lunch concession	11:00 am - 2:00 pm

H-ATRIUM

Wednesday	Coffee	7:00 am - 10:00 am
-----------	--------	--------------------

WATER STATIONS

In an attempt to lessen the amount of bottled water thrown away during each convention, ACI has chosen not to provide bottled water to attendees. As a replacement, water stations will be placed throughout the meeting space for you to enjoy.

ALCOHOL POLICY

Nonalcoholic beer and soft drinks are available at all ACI-sponsored receptions. The legal drinking age in Phoenix is 21.

ACI BOOKSTORE—C-301 A&B

Visit the ACI Bookstore to receive 10% off ACI publications and learn how to win the *Manual of Concrete Practice* on CD-ROM. The ACI Bookstore is open during the following hours:

Saturday	2:00 pm - 6:00 pm
Sunday-Tuesday	8:00 am - 5:00 pm

ACI CAREER CENTER—C-301 A&B

Looking for a job or an employee? Visit the ACI Bookstore to view ACI's Online Career Center. This job search engine is specifically targeted to the concrete industry. Job seekers, you'll have an opportunity to post your résumé and view, apply for, and save available jobs. Currently, there are approximately 150 jobs listed in the ACI Career Center. Employers, you'll have the opportunity to post job openings, post internships FREE of charge, and target the individuals you want to attract.

MEMBERSHIP INFORMATION — C-301 A&B

To learn MORE about the new ACI membership benefits and how to become a member, visit the ACI Bookstore.

General Information

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

ATTENDEE LOUNGE & CYBER CAFÉ

The exhibit hall will feature an Attendee Lounge, giving attendees a place to meet, relax, network, and get connected. Six cyber stations will be available with printers and wireless Internet. Charge your laptop and other devices at the charging station and learn about ACI's social media efforts as well. To access the wireless connection, look for **ACI Cyber Café** in your network connections.

C-301 A&B

Saturday	2:00 pm - 6:00 pm
Sunday-Tuesday	8:00 am - 5:00 pm

H-ATRIUM

Wednesday	8:00 am - 2:00 pm
-----------	-------------------

MEETING SPOT—C-301 A&B

Convention attendees are encouraged to visit the meeting spot for coffee or lunch and to meet first-time attendees and other convention attendees Monday and Tuesday, 8:00 am - 8:30 am and 12:00 pm - 1:00 pm.

SESSION HANDOUTS ON DEMAND

Handouts are available from speakers who have elected to provide and post them to the ACI website. Stop by the Cyber Café or go to www.aciconvention.org/handouts to download or print a copy of the handouts for the sessions you plan to attend. If you do not find a handout for a particular session, please contact the speaker for more information.

LOCAL INFORMATION

ACI Arizona Chapter—C-301 A&B FOYER

ACI Arizona Chapter members will be happy to answer general convention questions and provide information about the local area. Stop by their information desk during the following hours:

Saturday	2:00 pm - 6:00 pm
Sunday-Tuesday	8:00 am - 5:00 pm

General Information

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

RESTAURANTS

Phoenix Convention Center

Metro Lounge

Serves sandwiches, salads, soft drinks, and so much more! The lounge is located in the Atrium of the West Building.

Starbucks (100 Level)

Serves a variety of fresh-brewed coffees, espresso, and drinks.

Hours:

Monday-Friday	6:30 am - 4:00 pm
Saturday	7:00 am - 2:00 pm
Sunday	Based on occupancy

Hyatt Regency Phoenix

Networks Bar and Grill

Choose your favorite top-shelf cigar, order a hand-crafted cocktail or local microbrew, and relax on the patio. Networks Bar and Grill features cigars, liquors, premium martinis, margaritas, and an exclusive offering of microbrews on tap. Don't miss Networks Bar and Grill's Happy Hour specials and microbrews on tap. Opens daily at 11:00 am. Closing time varies based upon occupancy.

Compass Arizona Grill

Take in a 360-degree view of the spectacular Valley of the Sun in the only revolving roof top restaurant in Phoenix. For over 30 years, Hyatt Regency Phoenix's award-winning Compass Arizona Grill delivers stellar cuisine with unparalleled service. Experience seasonal menus that invite adventurous diners to return and indulge in the most current coupling of entrées and wines. Dinner: Monday through Sunday, 5:30 pm - 10:00 pm. Lounge: Monday through Sunday, 5:30 pm - 11:00 pm.

Terrace Café

Awaken your senses with Torrefazione Italia Coffee as you bask in the sunshine of the atrium lobby. Terrace Café has created tantalizing Southwest specialty items as well as American favorites for its morning and mid-day menus. The cuisine in its sun-filled Terrace Café is hand selected and prepared with even the most refined pallets in mind. Breakfast: Opens daily at 6:00 am.

General Information

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Einstein Bros. Café

Find an extensive “eat on the run” menu at Einstein Brothers. Located at the street level of the hotel, you may access this convenient café from the street or through the atrium lobby. Enjoy a cappuccino and a breakfast bagel, soup, salad, sandwich, or satisfying yogurt between meetings, or relax and savor a cup of Einstein’s signature brew. Opens daily at 6:00 am.

Room Service

Room service is available at the Hyatt Regency Phoenix from 6:00 am - 12:00 am, daily.

Renaissance Phoenix Downtown Hotel

Marston’s Café

American cuisine

A full-service breakfast through dinner “brasserie-style” bistro that carries a casual ambience and fresh dishes. Open for breakfast, lunch, and dinner.

Icon Lounge

Eclectic cuisine

The eclectic, changing menu offers small plates and specializes in hand-crafted martinis, mixed drinks, and good times. Open for lunch and dinner.

Room Service

Room service is available at the Renaissance Phoenix Downtown Hotel from 6:00 am - 12:00 am, daily.

TRANSPORTATION

Airport Shuttle

Shared ride service to and from the airport is available from SuperShuttle Phoenix. Advance reservations are highly recommended. To make your shuttle reservations in advance, please call 800-258-3826 or 602-244-9000, or visit www.supershuttle.com. Please note that SuperShuttle may make additional stops at other hotels that may delay your anticipated arrival/departure time.

General Information

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Taxis

The approximate fare for a taxi to the Phoenix Sky Harbor Airport from the Hyatt Regency Phoenix is \$15. The following taxis are recommended:

Apache Taxi: 480-557-7000

AAA/Yellow Cab: 480-888-8888

Mayflower Cab: 602-955-1355

Rates remain the same regardless of company, number of passengers, and number of bags. The first mile is \$5. Each additional mile is \$2.30. Each hour of a traffic delay is \$23. The minimum fare is \$15. Each per-trip airport surcharge is \$1.

Rental Cars

Hertz is the official car rental agency of the ACI Fall 2013 Convention. Receive discounts on upgrades, weekly rentals, and weekend rentals. To make advance reservations, call 800-654-3131 or visit www.hertz.com. Provide the group code **1993380** when making your reservation.

Use the Rental Car Shuttle, located outside of baggage claim. Shuttle runs every 5 minutes at each terminal.

Valley Metro Light Rail and Bus System

Trains run every 10-15 minutes during peak hours and typically every 20-30 minutes at other times of the day. If you plan to use this service, be sure to check the light rail schedule at www.valleymetro.org to view an accurate schedule. Tickets are sold at ticket machines at the rail stations for the following rates:

Single ride: \$2

All-day pass: \$4

7-day pass: \$20

15-day pass: \$33

Please have the exact fare ready, as the bus operators and fareboxes do not provide change. An all-day pass may be purchased to transfer between routes or for multiple same-day trips. Please note it is not possible to pay for more than one rider using the same bill. For more information, visit the Valley Metro website at www.valleymetro.org.

General Information

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

PARKING IN PHOENIX

Several parking options are available.

Hyatt Regency

Overnight Valet:

\$27 per 24 hours

Short-Term Valet Parking:

\$12 for the first hour + \$1 for each additional hour. After 10 hours, \$27.

Self-parking is available for \$19 per day in the Regency Parking Garage located adjacent to the Hyatt and Convention Center on N. 1st Street. In-and-out privileges are available in this lot.

Renaissance Hotel

Overnight Valet:

\$27 daily

Short-Term Valet Parking:

0 - 3 hours: \$12; 3 - 6 hours: \$15; 6 - 10 hours: \$18; 10+ hours: \$27.

Continuing Education



All sessions approved by the American Institute of Architects (AIA) are noted with AIA/CES and the number of hours. AIA is an AIA/CES Registered Provider.



All sessions approved by the Green Building Certification Institute (GBCI CE) are noted with GBCI and the number of hours. AIA is a provider of GBCI-approved courses for continuing education.

SESSION ATTENDANCE TRACKING FORM

The Session Attendance Tracking Form found at the back of the program book can be submitted to state boards that allow self-reporting of Continuing Education activities as evidence of participation. In most cases, one contact hour is equal to one Professional Development Hour (PDH). Check with your state board for acceptance criteria. Codes will be given out during each session to track your attendance.

General Information

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

SPEAKER READY ROOM—C-201 BOARDROOM

The Speaker Ready Room is available to moderators, speakers, and committee Chairs during the following hours:

Sunday	7:00 am - 6:00 pm
Monday	7:00 am - 6:00 pm
Tuesday	7:00 am - 6:00 pm

All speakers are requested to check in at the Speaker Ready Room 1 day prior to their session to ensure that:

- ACI has downloaded their presentation on the network in the session rooms; and
- Speakers' session handouts are downloaded onto the ACI website.

ACI SPRING 2014 CONVENTION—C-301 A&B



Mark your calendars for the ACI Spring 2014 Convention in Reno, NV, March 23-27, at the Grand Sierra Resort. Stop by the ACI Northern California and Western Nevada Chapter Desk Saturday through Tuesday to learn more about the convention and Reno.

Where's That Meeting Room?

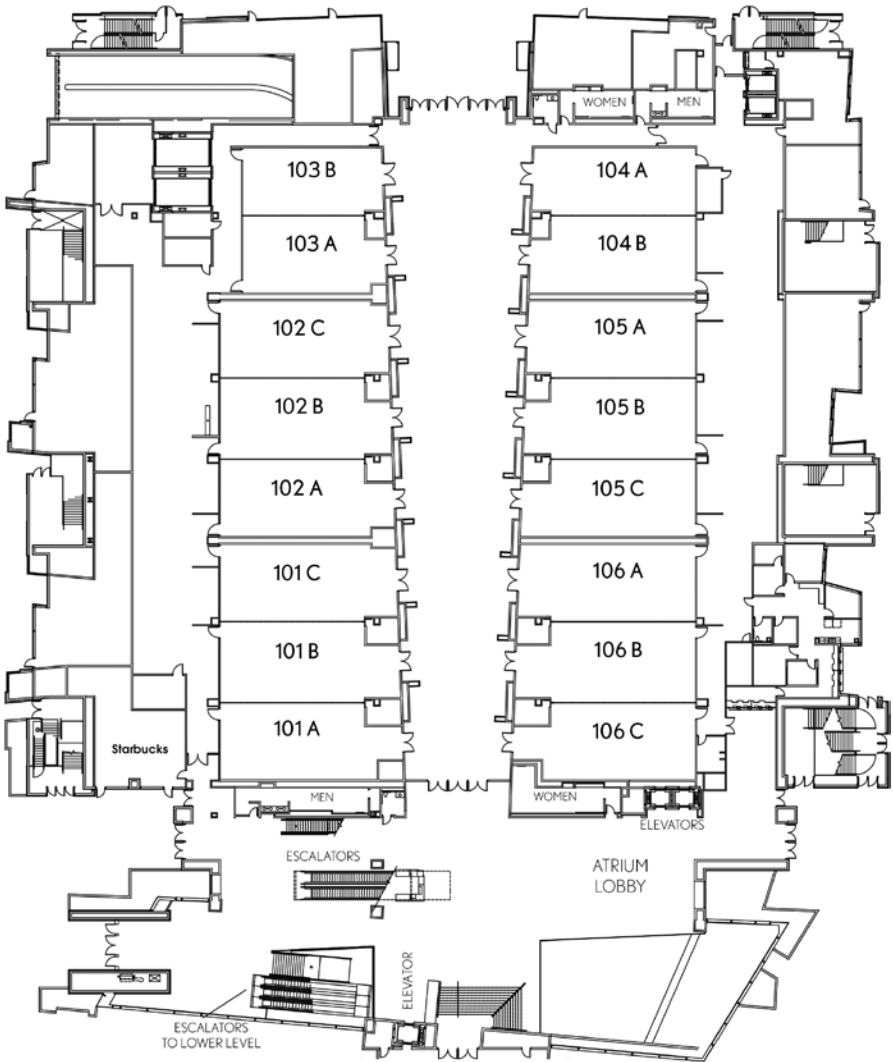
C = Phoenix Convention Center

H = Hyatt Regency Phoenix

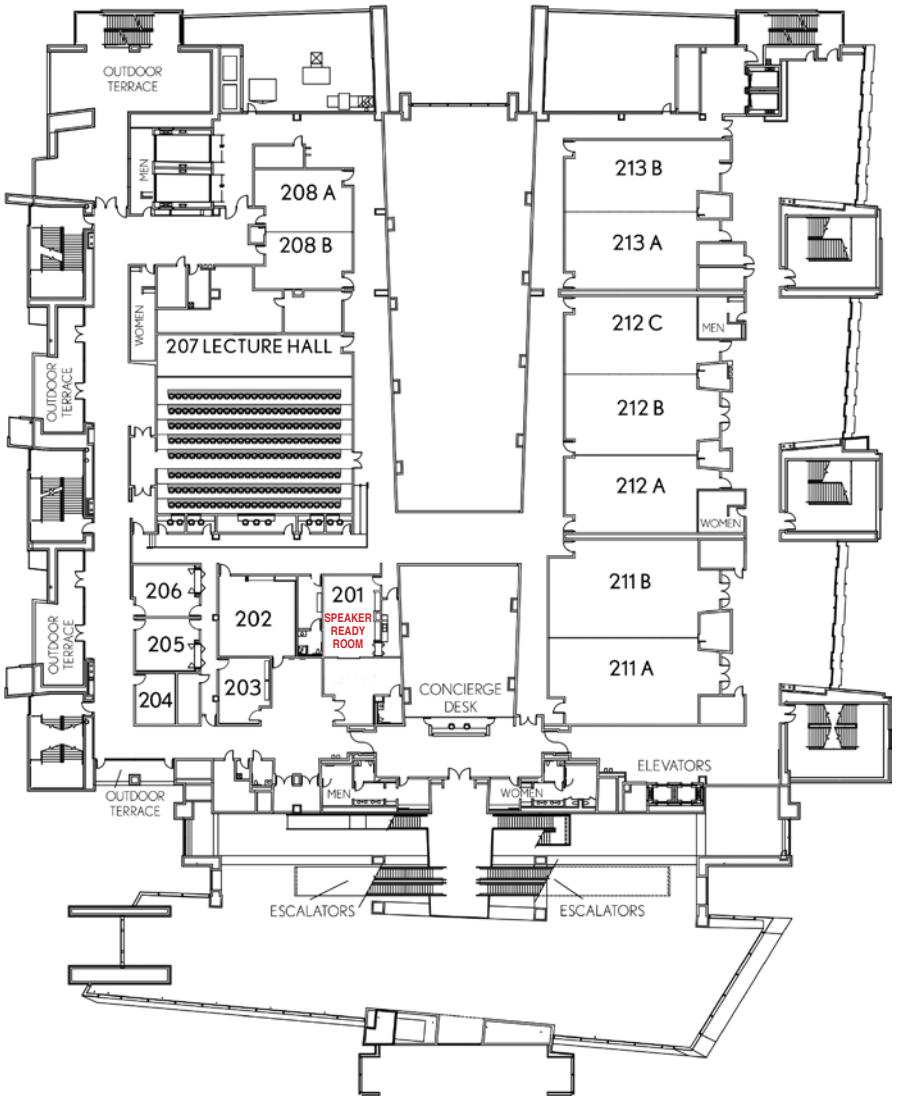
Room Name	Location
C-101 A-C	West 100 Level
C-102 A	West 100 Level
C-102 B	West 100 Level
C-102 C	West 100 Level
C-103 A	West 100 Level
C-103 B	West 100 Level
C-104 A	West 100 Level
C-104 B	West 100 Level
C-105 A	West 100 Level
C-105 B	West 100 Level
C-105 C	West 100 Level
C-106 A	West 100 Level
C-106 B	West 100 Level
C-106 C	West 100 Level
C-201 BOARDROOM	West 200 Level
C-202	West 200 Level
C-203	West 200 Level
C-206	West 200 Level
C-207	West 200 Level
C-211 A	West 200 Level
C-211 B	West 200 Level
C-212 A	West 200 Level
C-212 B	West 200 Level
C-213 A	West 200 Level
C-213 B	West 200 Level
C-301 A&B	West 300 Level
C-301 C	West 300 Level
C-301 D	West 300 Level

Room Name	Location
H-BOARDROOM	2nd Floor
H-BOREIN A	2nd Floor
H-BOREIN B	2nd Floor
H-CASSIDY	2nd Floor
H-COWBOY	2nd Floor
H-CURTIS A	2nd Floor
H-CURTIS B	2nd Floor
H-ELLIS EAST	2nd Floor
H-ELLIS WEST	2nd Floor
H-GARDEN TERRACE	3rd Floor
H-PHOENIX EAST	2nd Floor
H-PHOENIX WEST	2nd Floor
H-REGENCY A	Lobby Level
H-REGENCY B	Lobby Level
H-REGENCY C	Lobby Level
H-REGENCY D	Lobby Level
H-REMINGTON	2nd Floor
H-RUSSELL	2nd Floor
H-SUITE 312	3rd Floor
H-SUITE 314	3rd Floor
H-SUITE 316	3rd Floor
H-SUITE 318	3rd Floor
H-SUITE 322	3rd Floor
H-SUNDANCE	1st Floor

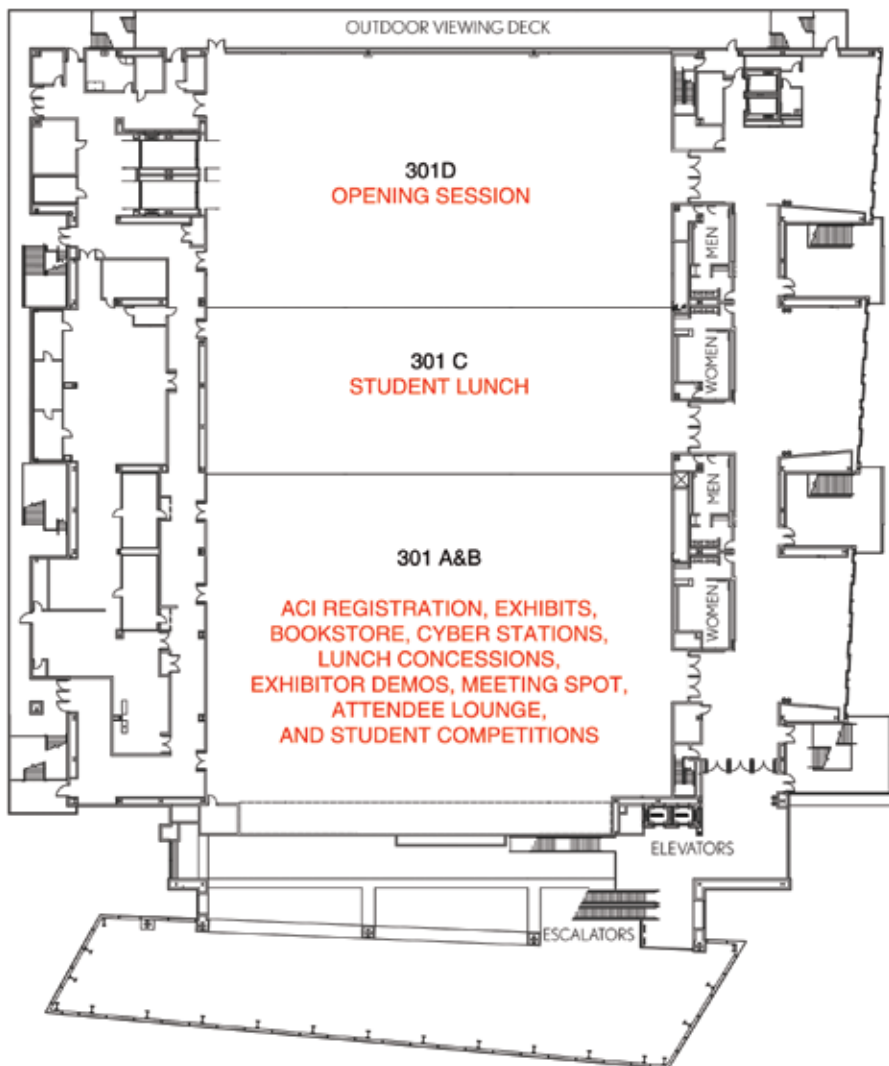
Phoenix Convention Center 100 Level



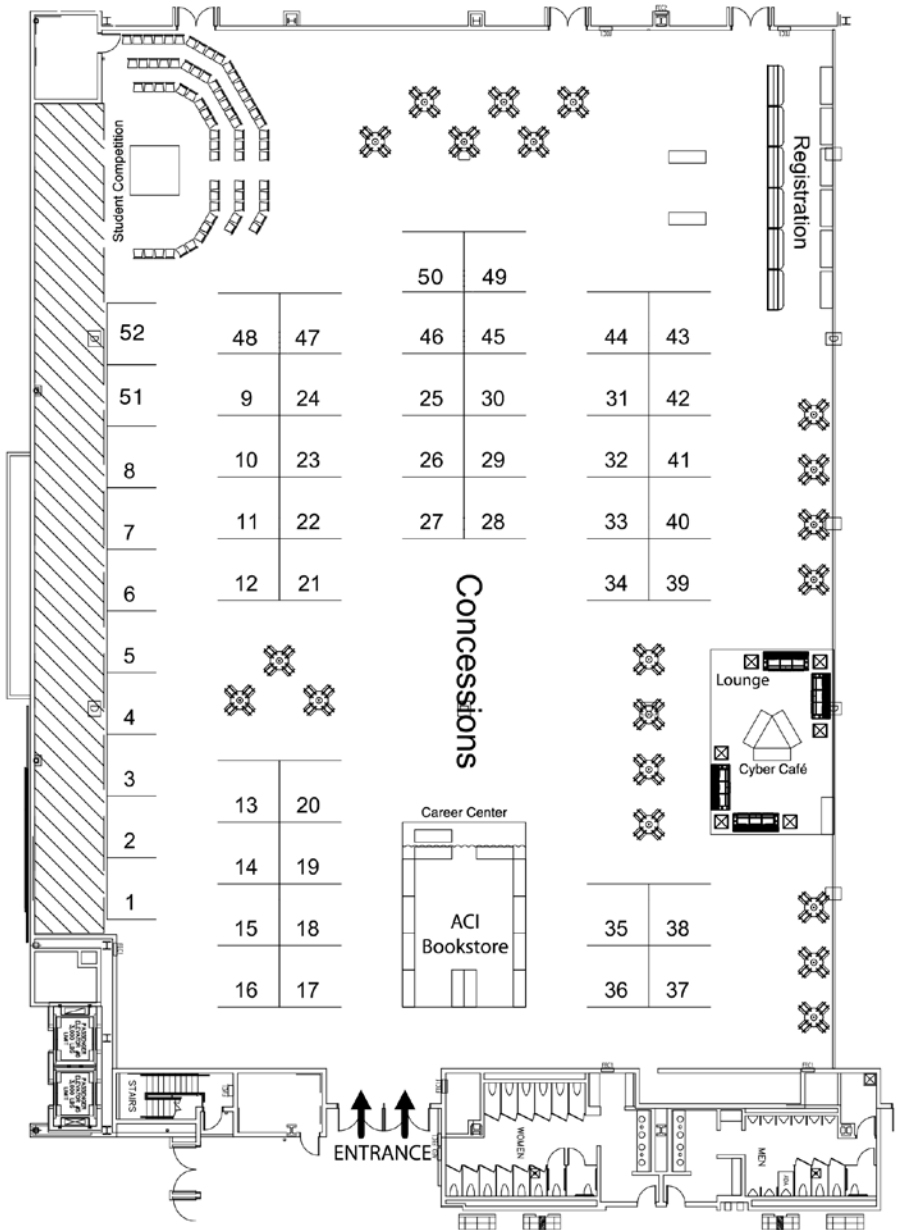
Phoenix Convention Center 200 Level



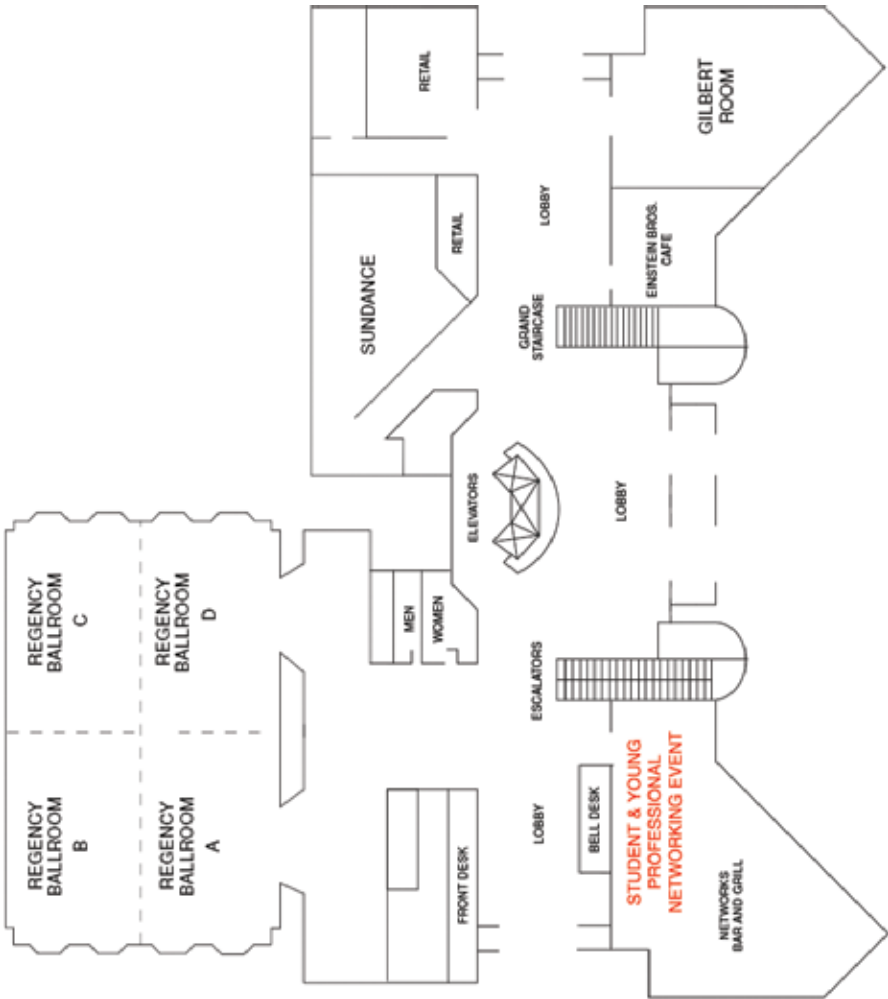
Phoenix Convention Center 300 Level



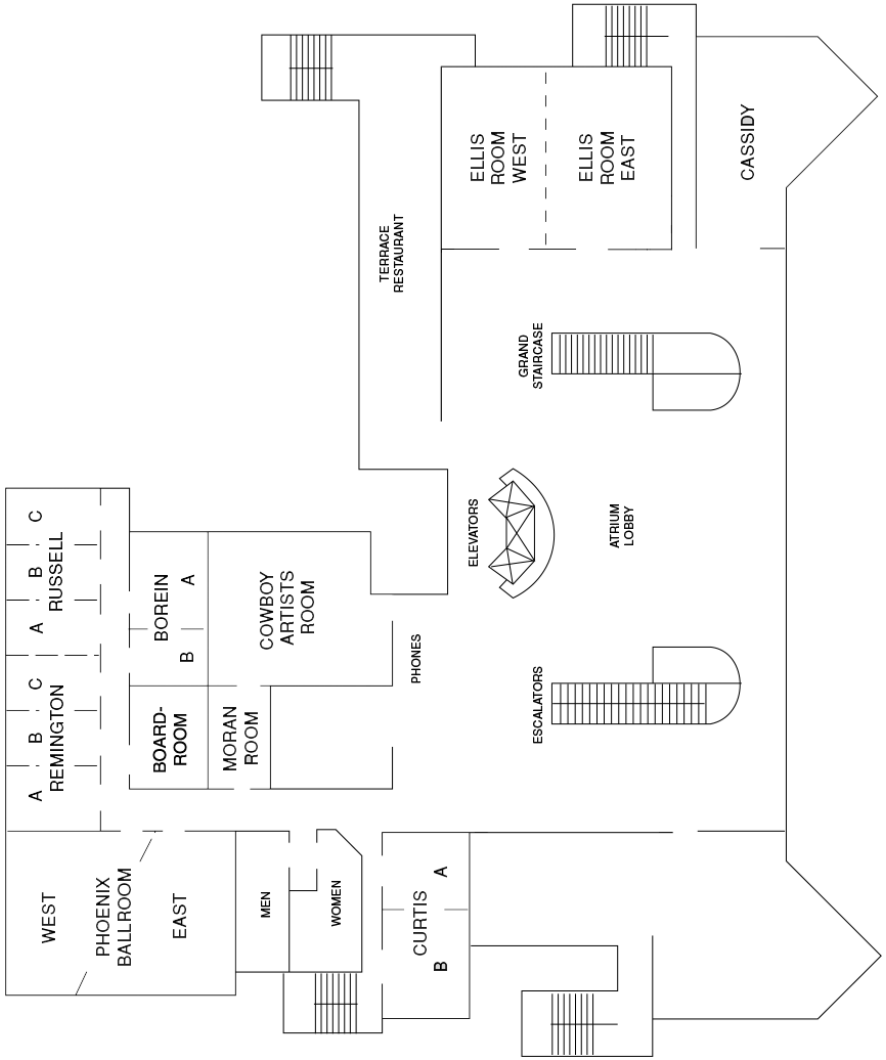
Exhibitor Floor Plan Phoenix Convention Center, 301 A&B



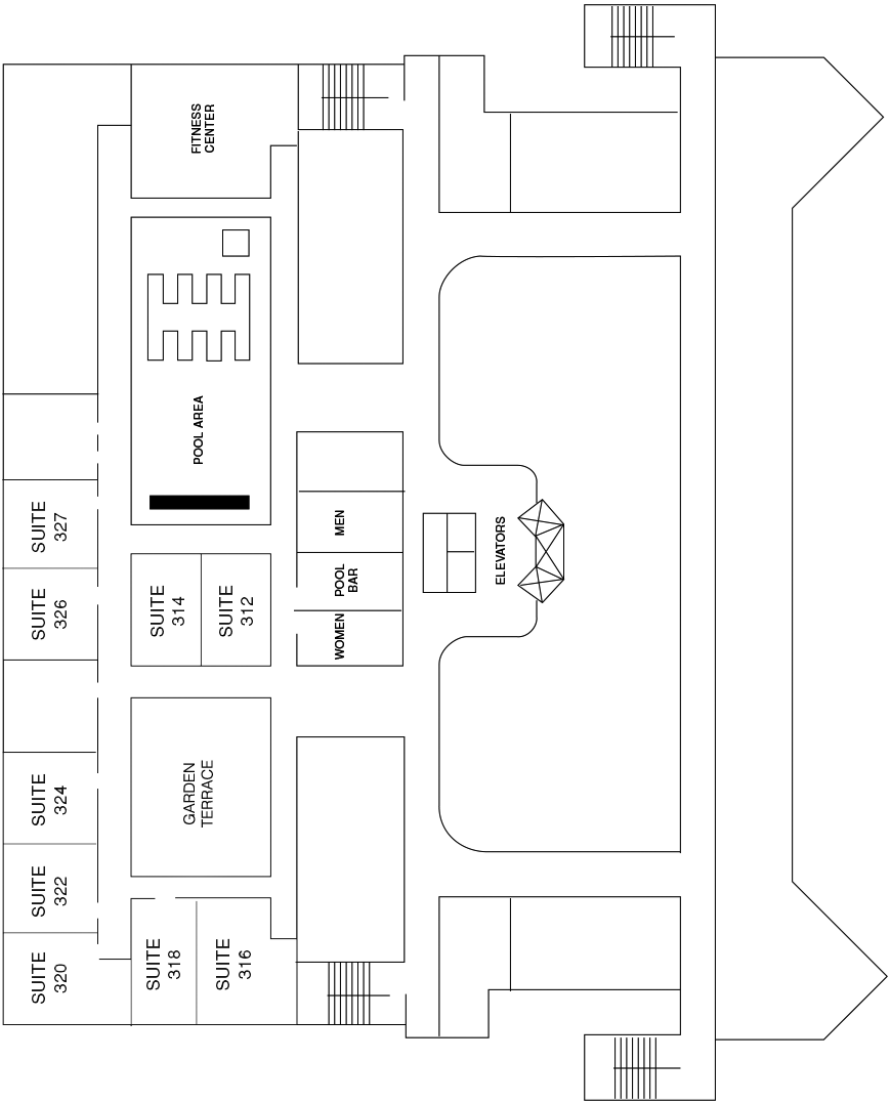
Hyatt Regency Lobby Level



Hyatt Regency Second Floor



Hyatt Regency Third Floor



Exhibitors

Exhibitors are listed as of 9/18/2013

Exhibits

C- 301 A&B

The ACI Arizona Chapter and the American Concrete Institute wish to thank all exhibitors for their participation in and support of the ACI Fall 2013 Convention.

Exhibit Hours

Sunday - Tuesday 8:00 am - 5:00 pm

EXHIBITOR LISTING

ACI Foundation

Booth #19

The ACI Foundation is a 501(c)(3) nonprofit organization and is a wholly owned subsidiary of the American Concrete Institute. The ACI Foundation receives, administers, and expends funds for educational, research, and scientific purposes to increase the knowledge and understanding of concrete materials, and to support programs that improve concrete design and construction. It comprises three councils, including the Strategic Development Council, Concrete Research Council, and Scholarship Council. To learn more about the ACI Foundation, please visit www.concrete.org/foundation/home.htm.

AMEC Environment & Infrastructure, Inc.

Booth #14

AMEC Environment & Infrastructure, Inc., is a full-service environmental consulting and engineering firm providing worldwide materials engineering, geotechnical engineering, environmental planning, and infrastructure design services. AMEC's materials practice offers professional and technical staff who have expertise in concrete consulting and materials testing and state-of-the-art equipment and testing facilities that support clients around the world. For more information, visit www.amec.com.

Arizona Builder's Exchange

Booth #43

The Arizona Builder's Exchange (AZBEX) is a trade organization dedicated to promoting the building industry by connecting builders, designers, developers, subcontractors, vendors, and service providers with local, current, and relevant information. AZBEX publishes an electronic newsletter twice a week (Tuesdays and Fridays), distributed by e-mail only. Each issue contains articles on what's happening in the local A/E/C industry, projects bidding, and a calendar of industry trade association events; Tuesday issues contain permits pulled and Friday issues contain bid results and project awards. Visit www.azbex.com for more information.

ASU – Del E. Webb School of Construction

C-301 Foyer

Arizona State University's Del E. Webb School of Construction is one of the top construction management programs in the country, housing several programs of interest to the concrete industry. Their emphasis on concrete gives undergraduate students a CM degree with an emphasis in concrete, and the new OSHA Training Institute Education Center provides continuing education to students and the industry. Visit www.asu.edu for more information.

BASF Corporation**Booth #17**

BASF is a worldwide supplier of chemical systems and formulations for the construction industry. The North American Construction Chemicals Division of BASF is composed of four business lines that offer products and solutions primarily for commercial, residential, industrial, and infrastructure construction, improving durability, water resistance, energy efficiency, safety, and aesthetics. To learn more, visit www.basf.com.

BC Graphics, Inc.**Table #1**

BC Graphics, Inc., is a full-service design, printing, promotional products, and corporate apparel distributorship. They offer online solutions for all of your marketing needs. For more information, visit www.bcgraphics.com.

Bentley Systems, Inc.**Booth #48**

Bentley is the global leader dedicated to providing architects, engineers, geospatial professionals, constructors, and owner-operators with comprehensive software solutions for sustaining infrastructure. Bentley Systems offers ProConcrete parametric 3D CAD software that models, details, and schedules cast-in-place and precast reinforced concrete structures virtually, then passes information “downstream” for fabrication and placing. It enables engineers, detailers and fabricators, and contractors to reduce documentation production time, construction costs, and project timelines, while eliminating errors and design flaws. To learn more, visit www.bentley.com.

Blucor Contracting, Inc.**Booths #4&5**

Blucor Contracting, Inc., was founded by Gordon Bluth in June 1989 and is an Arizona-based general contractor with corporate offices in Mesa. Blucor has focused on the installation of cast-in-place concrete pipe since its inception and has become a leader in this field in the Southwest United States. Blucor builds infrastructure such as grading, sewer, water, storm drain, curb, gutter, concrete structures, and paving. Over the years, clients have elected to use Blucor to build commercial buildings, tenant improvements, and other vertical construction services. This versatility, experience, and service-oriented mentality coupled with tenure have made Blucor a reliable and trustworthy partner in the construction market. Visit www.blucor.com to learn more.

Blue Planet, LTD**Booth #44**

Blue Planet™ produces sustainable building materials by mineralization of CO₂ from industrial waste streams with patented LCP™ technology. These materials are “carbon-negative,” sequestering CO₂ and offsetting portland cement. CarbonMix™ is an admixture containing sequestered industrial CO₂ that improves the performance of concrete. A quantitative Lifecycle Carbon Analysis uses the CarbonStar™ rating system.

Braun Intertec**Booth #7**

At Braun Intertec, engineers, scientists, special inspectors, and technicians are backed by accredited in-house materials laboratory to provide testing for a wide range of materials and products. From basic construction materials testing to more intricate failure analysis, Braun Intertec’s materials laboratory brings know-how to the most challenging of projects. For more information, visit www.braunintertec.com.

Burgess Pigment Company**Booth #20**

Burgess produces OPTIPOZZ highly reactive metakaolin, a white supplementary cementitious material that contributes to strength development and durability in concrete. The use of a small percentage of OPTIPOZZ in a mixture design will decrease ingress of harmful chemicals, improve finishability, reduce efflorescence, mitigate ASR, and assist in shrinkage resistance. For additional information, visit www.OPTIPOZZ.com.

CalPortland Company**Booth #31**

CalPortland is a major building materials and construction solutions provider to the Western United States and Canada. They provide solutions to your greatest construction challenges with expertise in cement production, distribution, ready mixed concrete, aggregates, and asphalt. CalPortland is committed to the advancement of sustainable materials and renewable technologies, recognized by US EPA ENERGY STAR for SUSTAINED EXCELLENCE for 9 consecutive years (2005 to 2013), a feat unmatched by any other U.S. building materials company. To learn more, visit www.calportland.com.

CEMEX**Booth #38**

CEMEX is committed to environmental stewardship and to the protection of biodiversity through the development of value-added building materials such as Fortium, a revolutionary new building material. The level of energy and CO₂ savings achieved through the use of Fortium provides savings that are unmatched in the industry. Visit www.cemex.com for more information.

CMEC**Booth #6**

The Construction Materials Engineering Council, Inc., (CMEC) is a not-for-profit organization whose goal is to improve the quality of production, inspection, and testing of construction materials through its many accreditation, education, and certification programs. CMEC inspects and accredits laboratories in the United States, Canada, Honduras, Dominican Republic, Puerto Rico, and Mexico and distributes its educational materials worldwide. Visit www.cmec.org to learn more.

Drake Materials/Cement**Booth #3**

Drake Cement, Drake Materials, and Drake Aggregates believe in supplying premier products to the Southwestern market while providing exceptional value. With great importance to sustainable development at the economic, environmental, and social level, they believe that they will be able to secure the companies' short- and long-term success. For more information, visit www.drakematerials.com.

ELE International**Booth #33**

ELE International is the world leader in concrete and soil testing equipment, providing products to educational facilities, concrete and cement and companies, and private testing laboratories. To learn more, visit www.eleusa.com.

ERICO**Booth #37**

ERICO is a leading global designer, manufacturer, and marketer of precision-engineered specialty metal products serving global niche product markets in a diverse range of electrical, construction, utility, and rail applications. ERICO's LENTON® is a line of reinforcing bar splicing systems and other reinforcing products used to connect steel reinforcement rods in concrete. For more information, visit www.erico.com.

The Euclid Chemical Company**Booth #28**

Euclid Chemical is a leading supplier to the concrete construction and masonry industry. We strive to be “demonstratively better” to our customers through cutting-edge research and development, technical support and service, product training, and an education-driven specification efforts. Our product offerings include fibers, chemical admixtures, Vandex waterproofing, Increte color, joint fillers, repair materials, and mining and tunneling products. Visit www.euclidchemical.com for more information.

Fox Blocks by Airlite Plastics Co.**Booth #1**

Fox Blocks are best-known for its ease of use, product engineering, and speed of construction. Fox Blocks are North America's fastest growing industrial-strength insulated concrete forms (ICF). Fox Blocks are currently manufactured regionally across the United States and Canada and backed by the Airlite Plastics Company, which has more than 60 years of high-end plastic and EPS foam product manufacturing experience. Visit www.foxblocks.com for more information.

Germann Instruments, Inc.**Booths #21&22**

Germann Instruments, Inc., is the leader in nondestructive testing (NDT) of concrete structures. Their cutting-edge, innovative product line includes advanced NDT equipment for concrete testing. For structural integrity, they provide impact-echo, mash, and MIRA/Eyecon three-dimensional (3-D) shear-wave systems. For durability, they provide service life, rheometer, PROOVEit, chloride, and profile. For freezing and thawing, they provide the EVA Analyzer and RapidAir. For fast-track construction, they produce the LOK-TEST and Coma-Meter. For corrosion surveys, they provide GalvaPulse and RapiCor. They also produce the Bond-Test and CorroEye for repair quality. For more information, visit www.germann.org.

Giatec Scientific Inc.**Booth #49**

Giatec Scientific Inc. is a knowledge-based company that provides advanced concrete testing technologies to the construction industry. Giatec offers novel methods and devices for the performance-based quality control of concrete and accurate condition assessment of concrete infrastructure. These innovative tools are designed for various applications for concrete producers, consulting companies, and infrastructure owners and operators. To learn more, visit www.giatec.ca.

Grace Construction Products**Booth #15**

Headquartered in Cambridge, MA, Grace Construction Products is a worldwide leading manufacturer of concrete admixtures and fibers; liquid pigments for colored concrete; cement processing additives; concrete masonry products; air and vapor barriers; roofing underlayments; self-adhered window, door, and deck flashings; structural waterproofing systems; and fire protection products. For more information, visit www.grace.com.

Headed Reinforcement Corp. (HRC)**Booth #26**

Headed Reinforcement Corp. is known in the industry for delivering practical coupler and T-head solutions without reducing the capacity of the reinforcing steel for ultimate strength and ductility. HRC products are designed to exceed the tensile properties of the reinforcing steel used. Visit www.hrc-usa.com for more information.

Hoskin Scientific Limited**Booth #32**

Hoskin Scientific has been a supplier of testing equipment and monitoring instrumentation for over 60 years. Throughout North America they offer exclusively the Concrete Specimen End Grinder and the HS-745T Air Voids System. Our partners include: Nikon Instruments, which offers a full line of microscopes and imaging systems for a variety of applications; and Onset Computer Corporation, which offers a full line of data loggers including a thermocouple data logger for concrete temperature monitoring. Find more information at www.hoskin.ca.

Hughes Brothers, Inc.**Booth #23**

Hughes Brothers, Inc., manufactures fiber-reinforced polymer (FRP) reinforcement under the trade name Aslan FRP. Aslan FRP products include FRP reinforcing bar for concrete reinforcement in corrosive or electrically sensitive environments, glass fiber-reinforced polymer dowel bars for load transfer between slabs, and structural strengthening materials for externally bonded and near-surface-mount strengthening of existing structures. To learn more, visit www.hughesbros.com.

Ingenera USA**Booth #51**

Ingenera USA's mission is to bring environmentally friendly products to the US construction industry. To learn more, visit <http://ingenerausa.com>

ITW Commercial Construction**Booth #12**

As the company that invented concrete anchoring technology, ITW Commercial Construction holds a unique place in the history of construction and building. The ITW brand has become synonymous with the anchoring product category it invented. For more information, visit www.itwredhead.com.

Korber Sales Company**Booth #8**

Korber Sales Company has been representing leading manufacturers in the construction industry since 1984. They specialize in coatings, waterproofing, and structural repair of concrete. Representing FiveStar Products (precision non-shrink cementitious and epoxy grouts and structural repair products), Polycoat Products (elastomeric membranes and industrial polyureas), Rock-Tred (epoxy-based systems for broadcast aggregate, urethane mortars, and terrazzo systems), and more. Visit www.korbersales.com to learn more.

KPFF Consulting Engineers**Booth #40**

KPFF Consulting Engineers provides a wide variety of engineering services to the design and construction industry. Services include structural and civil engineering; construction management; project management; and a variety of specialty engineering services, including

the use of carbon fiber material for the repair/strengthening of concrete structures. Their engineers work on all types of building and non-building projects throughout the United States and overseas. To learn more, visit www.kpff.com.

Kryton International Inc.

Booth #35

Kryton International Inc. takes the risk out of concrete waterproofing. Waterproofing concrete structures since 1973, Kryton has the most complete system, which has undergone more testing and received more approvals than any other. Kryton is the leader in products for waterproofing, repairing, and protecting concrete and, most notably, the inventors of the Crystalline waterproofing admixture. For more information, visit www.kryton.com.

MMFX Steel Corporation

Booth #2

MMFX Steel Corporation of America provides MMFX2 uncoated corrosion-resistant, high-strength concrete reinforcing steel throughout North and South America, Africa, and the Middle East under ASTM A1035/A1035M. MMFX2 reinforcing bar is proven to be 5x more corrosion-resistant without a coating, up to 2x stronger than conventional steel, and able to provide 100+ years of service life. Applications include bridges and highways, commercial construction, ports, sea walls, dams, and other critical infrastructure. To learn more, visit www.mmfx.com.

Myers Associates, Inc.

Booth #50

Myers Associates, Inc., has been providing quality products and services throughout the United States since 1994. They specialize in the reselling of Construction Material Testing Equipment from all of the major manufacturers. Meyers offer the opportunity to make one call to find the equipment you want at the right price. Count on Myers Associates for all of your construction materials testing equipment needs. To learn more, visit www.myerstest.com.

NYCO Minerals, Inc.

Booth #13

NYCO, a member of the S&B Industrial Minerals Group, is a world leader in the production of wollastonite, an acicular calcium metasilicate micro-fiber reinforcement for concrete and concrete products. NYCO offers a broad portfolio of wollastonite grades to meet the needs of their customers from facilities in Willsboro, NY, and Hermosillo, Sonora, Mexico. For more information, visit www.nycominerals.com.

PlastiForm Concrete Forming Systems LLC (PlastiForm CFS)

Booth #30

Presenting PlastiForm™, offers plastic forms for concrete forming. These plastic forms are one-fourth the weight of lumber. Used for flatwork, straight and radius, the system sets up and breaks down four times faster than wood or metal, reducing labor by 75%! It is reusable and recyclable, saving you time and money. It can be used for foundations, driveways, sidewalks, stairs, curbs and gutters, short walls, pool decks, and more. To learn more, visit www.plastiformcfs.com.

Proceq USA, Inc.

Booth #34

Proceq USA, Inc., a global leader in portable nondestructive testing (NDT) instruments for concrete structures, will be displaying its latest innovations in NDT instruments. New products include the Resipod concrete surface resistivity meter and the new portable, hand-

held Handy Search ground-penetrating radar. Other instruments on display will include Proceq's range of reinforcing bar detection equipment, ultrasonic testing instruments, corrosion analysis instruments, pull-off adhesion testing equipment, and uniformity/strength evaluations of structures with the complete range of Original Schmidt concrete test hammers. Visit www.proceq.com to learn more.

S-FRAME Software

Booth #18

Since 1981, structural engineers worldwide have chosen to use S-FRAME® (FE analysis), S-CONCRETE® (RC beam, column, and wall section design and detailing), and S-LINE® (RC beam analysis, design, and detailing) on simple as well as some of the most complex projects in terms of geometry, material models, and loading conditions because of the products' depth of capabilities, ease-of-use, accuracy, and detailed design reports. This year, S-FRAME introduced a brand new product, S-FOUNDATION, for the analysis and design of foundations. For more information, visit www.s-frame.com.

Salt River Materials Group

Booth #9

Salt River Materials Group (SRMG) is the commercial marketer for Phoenix Cement® brand portland and masonry cements, Salt River Sand & Rock™ aggregates, fly ash, and other pozzolans. With local ownership, regionally sourced materials, and strategic distribution capabilities throughout the Southwest United States, SRMG's two divisions are 100% American™ Companies and the suppliers of choice for American construction projects. Visit www.srmaterials.com for more information.

Sensors & Software Inc.

Booth #25

Sensors & Software Inc. is recognized worldwide as a leading manufacturer of ground-penetrating radar. Conquest™ delivers fast, real-time imaging to evaluate, drill, or cut structures on site. Locate reinforcing bar, conduits, post-tension cables, and reinforcing wire mesh and transfer data to a PC. The PCD feature enables delineation of current-carrying power cables. To learn more, visit www.sensoft.ca.

Sika Corporation

Booth #36

Sika Corporation, based out of Lyndhurst, NJ, is a global technology leader with over 100 years of experience in concrete materials and restoration technology. Sika has a long history of developing and producing a wide range of high-performance products and systems that cover, seal, bond, strengthen, reinforce, repair, and protect construction projects from roof to floor. For more information, visit www.sika.com.

Silica Fume Association

Booth #27

The Silica Fume Association provides high-performance concrete information to the construction industry. Silica fume is a valuable waste material used in today's sustainable concrete mixtures. To learn more, visit www.silicafume.org.

Simpson Strong-Tie

Booth #46

For more than 55 years, Simpson Strong-Tie has focused on creating structural products that help people build safer and stronger homes and buildings economically. The company has led the industry in structural systems research, testing, and innovation and works closely with

industry professionals to provide code-listed, field-tested products and value-engineered solutions. Simpson Strong-Tie manufactures a variety of products for residential, commercial, industrial and infrastructure construction. For more information, visit the company's website at www.strongtie.com.

Smith Emery Laboratories

Booth #47

Smith-Emery Laboratories is the oldest and largest independent testing agency in the Western Region of the United States and remains the only Commercial Independent Testing Laboratory that is owned and managed by a licensed civil engineer, supported by an educated staff of civil, geotechnical, and chemical engineers and technicians. Offices are located in Los Angeles and Anaheim, CA; Salem, OR; Oakesdale, WA; and Shanghai, China. To learn more, visit www.smithemerylabs.com.

STRUCTURAL TECHNOLOGIES

Booth #39

STRUCTURAL TECHNOLOGIES was created in the early 1980s as part of STRUCTURAL Group to develop proprietary products, processes, and systems. STRUCTURAL TECHNOLOGIES comprises product development, engineering, and technical service experts supporting specialized solutions groups such as strengthening, post-tensioning, cathodic protection, force protection, concrete repair, and waterproofing. For more information, visit www.structural.net.

Suntec Concrete Inc.

Booth #42

Suntec Concrete Inc. is the largest commercial concrete construction company in the Southwest United States. Suntec performs all aspects of commercial concrete construction, specializing in structural, tilt panel, flatwork, and foundation construction. Suntec also self-performs all concrete placement and finishing. To learn more, visit www.suntecconcrete.com.

Tourney Consulting Group, LLC

Booth #29

Tourney Consulting Group, LLC (TCG) is a consulting and laboratory company that focuses on durability and cost-effective service-life solutions for concrete structures. TCG conducts service-life engineering on new and existing structures. TCG's laboratory is AASHTO-approved, Army-Corps.-validated, STADIUM-certified, and CCRL-compliant. For more information, visit www.tourneyconsulting.com.

uGRIDD Corporation

Booth #10

uGRIDD provides customers with an affordable web-based platform for showing, sharing, and finding infrastructure data. The website also provides time-saving tools to manipulate and process georeferenced data. The services offered have a proven track record of helping customers generate revenue, reduce cost, improve efficiency, devise solutions, and develop publicity. Visit www.uGRIDD.com to learn more.

Universal Construction Testing (UCT)

Booth #52

UCT provides full structural and geotechnical field NDT, quality control, and a wide array of laboratory services. Visit www.utcgroup.com to learn more.

Vector Corrosion Technologies**Booth #16**

Vector Corrosion Technologies offers a portfolio of solutions for concrete corrosion repair and protection. Innovative solutions include electrochemical chloride extraction; cathodic protection; and an array of galvanic protection systems, including embedded galvanic anodes, galvanic jackets, and activated arc-spray zinc metalizing. Vector also provides evaluation, repair, and mitigation services for post-tension corrosion and temperature-resistant composite-strengthening systems. For more information, call 813-830-7566 or visit www.vector-corrosion.com.

Wacker Neuson Logistics Americas LLC**Booth #11**

Wacker Neuson, a global manufacturer of light and compact equipment, offers concrete contractors product solutions that help effectively manage projects, deliver high-quality results, and maintain tight deadlines. The broad line of concrete and climate-control products include a versatile selection of walk-behind and ride-on trowels, internal and external vibrators, screeds, and hydronic surface heaters. The company also offers a wide range of compaction, demolition, utility, and compact equipment. To learn more, visit www.wackerneuson.com.

Xypex Chemical Corporation**Booth #24**


For over 30 years, Xypex's proprietary Crystalline Technology has set an international standard of excellence in concrete waterproofing and protection. Backed by a distribution/technical service network in more than 70 countries, Xypex's diverse and reliable product line is available wherever and whenever needed. For more information, visit www.xypex.com.

Zircon Corporation**Booth #41**


Zircon Corporation, a leading company in electronic stud finders, also makes concrete scanners to locate embedded metal, such as reinforcing bar, before your drill or saw blade does! These easy-to-use, inexpensive metal detectors are also very good for nondestructive inspection (NDI). To learn more, visit www.zircon.com.

Exhibitor Demonstration Schedule

Monday, October 21, 2013

Time	Company/Organization	Presentation/Demo Title
9:00	Bentley Systems	Concrete Design Solutions: RAM Structural System and RAM Concept
9:45	Sensors & Software	Conquest is used worldwide by concrete professionals to locate objects embedded in concrete (rebar, post-tension cables, conduits). Based on ground-penetrating radar (GPR) technology, it can penetrate concrete to a maximum depth of 24 in. (600 mm).
10:30	Zircon	Scanning Concrete to Locate Rebar with Zircon MetalliScanner MT6
11:15	ELE International	New safety requirements form concrete compression machines and new ASTM standards for testing segregation resistance of SCC concrete mixtures.
12:00		Special presentation on Concrete Cares, an industry-wide initiative to use decorative concrete as a means to raise cancer awareness.
1:30	Fox Blocks	Update on Insulated Concrete Forms
2:15	PlastiForm Concrete Forming Systems LLC	PlastiForm HDPE Flexible Boards Presentation
3:00	NYCO Minerals Inc. / ASU	Wollastonite—Microfiber Reinforcement in FRC
3:45	Sika Corporation	Say “Goodbye” to Leaking Concrete Structures
4:30	CEMEX	Roller-Compacted Concrete Pavement—What Engineers Need to Know. <i>*Complimentary CEMEX gear and RCC paving publications and materials will be given out.</i>

Tuesday, October 22, 2013

Time	Company/Organization	Presentation/Demo Title
9:45	S-FRAME Software	Concrete Software Solutions from S-FRAME Software
10:30	KPFF	Carbon Fiber Technology as a Solution for Concrete Repair
11:15	Germann Instruments, Inc.	Control of Hardening Concrete
12:00		Special presentation on Concrete Cares, an industry-wide initiative to use decorative concrete as a means to raise cancer awareness.
1:30	Giatic Scientific Inc.	Novel Devices for Non-Destructive Testing of Concrete Durability and Rebar Corrosion
2:15	Sika Corporation	Say “Goodbye” to Leaking Concrete Structures

*demos listed as of 9/10/13.

Demonstration schedule listed as of 9/10/2013. For the most up to date list of exhibitor demonstrations, please stop by the ACI Registration Desk or check the digital monitor in the exhibit hall.

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Friday, October 18, 2013		
6:30 pm - 9:00 pm		
TAC	Technical Activities M1	H-ELLIS WEST
Saturday, October 19, 2013		
7:00 am - 6:00 pm		
TAC	Technical Activities M2	H-PHOENIX WEST
8:00 am - 5:00 pm		
131	Building Information Modeling of Concrete Structures	H-CURTIS B
9:00 am - 6:00 pm		
347	Formwork for Concrete M1	H-RUSSELL C
10:00 am - 12:00 pm		
562-D	Eval, Repair & Rehab - Structural Repair Design M1	H-REMINGTON C
12:30 pm - 6:00 pm		
	ACI Registration	C-301 A&B
1:00 pm - 2:00 pm		
562-D	Eval, Repair & Rehab - Structural Repair Design M2	H-REMINGTON C
1:00 pm - 4:00 pm		
562-A	Life Safety	H-RUSSELL B
1:00 pm - 5:00 pm		
EAC	Educational Activities M1	H-RUSSELL A
301	Specifications M1	H-PHOENIX EAST
1:00 pm - 5:00 pm - Sessions		
	Concrete Sustainability Forum VI	H - ELLIS EAST & WEST

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Saturday, October 19, 2013 (cont.)

2:00 pm - 6:00 pm

	ACI Bookstore	C-301 A&B
	Afternoon Soda Break	C-301 A&B

3:00 pm - 5:00 pm

563	Specs Repair of Struct Concrete Buildings M1	H-CURTIS A
-----	--	------------

4:00 pm - 5:00 pm

562-C	Structural Analysis M1	H-REMINGTON C
-------	------------------------	---------------

6:00 pm - 8:00 pm

562-C	Structural Analysis M2	H-REMINGTON C
-------	------------------------	---------------

6:00 pm - 9:00 pm

562-F	Evaluation Repair & Rehab - General	H-CURTIS A
-------	-------------------------------------	------------

7:00 pm - 9:00 pm

347-A	Formwork-Specification	H-RUSSELL C
-------	------------------------	-------------

Sunday, October 20, 2013

7:00 am - 8:15 am

301-SC	Spec-Steering Committee	H-REGENCY C
--------	-------------------------	-------------

7:00 am - 10:00 am

	*Guest Hospitality and Overview	H-SUNDANCE
	Coffee Break	C-301 A&B

7:00 am - 2:00 pm

TAC	Technical Activities M3	H-PHOENIX WEST
-----	-------------------------	----------------

7:00 am - 6:00 pm

	Speaker Ready Room	C-201 BOARDROOM
--	--------------------	-----------------

7:30 am - 5:00 pm

	ACI Registration	C-301 A&B
--	------------------	-----------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

8:00 am - 8:30 am		
408-A	Mechanical Splices and Headed Bars	C-104 B
8:00 am - 9:00 am		
	Convention Orientation Breakfast	H-REGENCY A
8:00 am - 9:30 am		
341-A	Equake Res Bldgs-Columns	C-105 A
8:00 am - 10:00 am		
E706	Repair Application Procedures	C-105 B
S801	Student Activities	C-103 A
445-B	Shear & Torsn-Seismic Shear	C-203
562-B	Eval Repair & Rehab - Loads	H-CASSIDY
8:00 am - 10:30 am		
CLC	Construction Liaison	C-102 C
8:00 am - 11:00 am		
ITG-10	Alternative Cementitious Materials	H-COWBOY
TACRG1	TAC Review Group 1	H-CURTIS A
TACRG2	TAC Review Group 2	H-CURTIS B
TACRG3	TAC Review Group 3	H-BOREIN A
TACRG4	TAC Review Group 4	H-BOREIN B
8:00 am - 5:00 pm		
	ACI Bookstore	C-301 A&B
	Exhibits	C-301 A&B
8:30 am - 10:00 am		
342	Bridge Evaluation	H-PHOENIX EAST
440-M	FRP - Repair of Masonry Str	C-101 A-C

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

√ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Sunday, October 20, 2013 (cont.)

8:30 am - 11:30 am

MEMC	Membership	C-104 A
314	Simplified Design Buildings	C-102 A
315-B	Detailing-Constructibility	C-103 B
350-C	Env Str-Reinf & Devel	C-202
408	Development and Splicing	C-104 B

8:30 am - 12:00 pm

301	Specifications M2	H-REGENCY C
-----	-------------------	-------------

8:30 am - 12:30 pm

347	Formwork for Concrete M2	H-REGENCY B
-----	--------------------------	-------------

9:00 am - 12:00 pm

551	Tilt-Up	H-RUSSELL
-----	---------	-----------

9:30 am - 10:30 am

318-EA	Electronic Aids	H-ELLIS WEST
--------	-----------------	--------------

9:30 am - 11:00 am

341-D	Perf Based Seismic Design	C-105 A
-------	---------------------------	---------

9:30 am - 12:30 pm

228	Nondestructive Testing	C-211 B
-----	------------------------	---------

10:00 am - 10:30 am

	Roadmap to Committee Participation	C-301 A&B
--	------------------------------------	-----------

10:00 am - 11:00 am

343-G	Editorial	H-ELLIS EAST
-------	-----------	--------------

10:00 am - 11:30 am

E701	Materials for Concrete Construction	C-103 A
------	-------------------------------------	---------

IF	ACI International Forum	C-211 A
----	-------------------------	---------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

10:00 am - 12:00 pm		
C660	Shotcrete Nozzleman Cert	H-PHOENIX EAST
10:00 am - 1:00 pm		
421	Reinf Slabs	C-105 C
549	Thin Reinforced	C-105 B
10:00 am - 5:00 pm		
	*Guest Lounge	H-SUNDANCE
10:30 am - 12:00 pm		
376-01	Steering Committee	H-ELLIS WEST
10:30 am - 1:30 pm		
445-A	Shear & Torsn-Strut & Tie	C-106 B
10:30 am - 4:30 pm		
	ACI Student Pervious Concrete Cylinder Competition	C-301 A&B
	Art of Concrete Student Competition	C-301 A&B
11:00 am - 12:00 pm		
343-A	Design	H-ELLIS EAST
546-C	Repair-Guide	H-REMINGTON
11:00 am - 12:30 pm		
341-C	Equake Res Brdgs-Retrofit	C-105 A
11:00 am - 1:00 pm		
351-TG1	Specification for Cementitious Grouting between Foundations & Equipment Bases	H-CASSIDY
C640	Craftsman Cert	C-102 C
11:00 am - 2:00 pm		
	Lunch Concession	C-301 A&B
	Afternoon Soda Break	C-301 A&B

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Sunday, October 20, 2013 (cont.)

11:00 am - 3:30 pm		
237-TG1	Self-Consolidating Concrete Task Group	C-206
11:00 am - 4:00 pm		
	✓Southwest Story Tour	H-DEPART MAIN LOBBY
11:30 am - 1:00 pm		
221	Aggregates	H-COWBOY
335	Composite Hybrid	C-104 A
350-SC	Env Str-Steering Comm	C-202
374-TG2	Protocol for Testing RC Structural Elements	C-203
441-E	Columns with Multi-Spiral Reinforcement	H-BOREIN A
11:30 am - 1:30 pm		
	✓International Lunch	H-REGENCY A
12:00 pm - 2:00 pm		
SCO	Scholarship Council	H-CURTIS A
12:30 pm - 2:00 pm		
445-E	Shear & Torsn- SOA Torsion	C-103 A
12:30 pm - 4:30 pm		
301-B	Spec-Formwork & Reinforcement	H-CURTIS B
301-H	Spec-Tilt-Up Constr & Arch Conc	H-BOARDROOM
1:00 pm - 2:30 pm		
369	Seismic Repair and Rehabilitation M1	H-CASSIDY
533	Precast Panels	C-102 C
1:00 pm - 3:00 pm		
228-B	Visual Inspection	C-104 A
351-C	Equipment Foundations - Dynamic Foundations	H-BOREIN A
376-B	Materials Subcommittee	C-103 B
445-C	Shear & Torsn-Punching Shear	H-ELLIS EAST

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

1:00 pm - 3:00 pm - Sessions		
	Advancements in Concrete Pavements	C-212 B
	Conservation of Historic Concrete, Part 1 of 2	C-211 A
	Fiber-Reinforced Concrete for Sustainable Structures, Part 1 of 2	C-207
	Structural Concrete Design—The Legacy of Dr. W. Gene Corley, Part 1 of 2	C-212 A
1:00 pm - 4:00 pm		
362-A	Parking Str-Standard	H-ELLIS WEST
1:00 pm - 5:00 pm		
301-C	Spec-Placing Consolidating & Curing	C-105 B
301-D	Spec-Lightweight & Massive Concrete	C-203
301-G	Spec-Shrink Comp Conc & Ind Floor Slabs	C-202
336	Footings	H-COWBOY
350-E	Env Str-Precast/Prestressed	C-105 C
562	Eval, Repair & Rehab	H-REGENCY B
1:30 pm - 2:30 pm		
506-B	Shotcreting-Fiber Reinforced	H-PHOENIX EAST
1:30 pm - 3:00 pm		
341-B	Earthquake Res Brdgs-Pier Walls	C-105 A
440-TG2	FRP-Task Group Repair Material Spec	C-104 B
1:30 pm - 3:30 pm		
345	Bridge Construction	C-106 B
1:30 pm - 5:00 pm		
355	Anchorage M1	C-101 A-C
2:00 pm - 3:00 pm		
310-TG1	Curing Decorative Concrete	H-PHOENIX WEST

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Sunday, October 20, 2013 (cont.)

2:00 pm - 3:30 pm

C650	Tilt-up Certification Committee	H-CURTIS A
236-B	Material Science-Transport Mechanisms	C-102 B

2:00 pm - 4:00 pm

215	Fatigue	H-BOREIN B
305	Hot Weather	C-106 A

2:00 pm - 5:00 pm

132	Responsibility (RCC)	H-RUSSELL
315	Detailing	C-103 A
352	Joints	C-211 B


2:30 pm - 4:00 pm

HTC	Hot Topic	H-PHOENIX EAST
-----	-----------	----------------

2:30 pm - 5:00 pm

224	Cracking	C-102 C
-----	----------	---------

3:00 pm - 5:00 pm

	Beer Garden - <i>Sponsored by</i> 	C-301 A&B
121	Quality Assurance	C-104 A
301-E	Spec-Post-Tensioned Concrete	H-ELLIS EAST
309	Consolidation	H-BOREIN A
341	Earthquake-Resistant Bridges	C-105 A
370	Blast and Impact Load Effects	C-102 A
376-C	Analysis Subcommittee	C-103 B
423-E	Prestress Losses	H-PHOENIX WEST
440-L	FRP-Durability	H-REGENCY C
445-D	Shear & Torsion - Database	H-REMINGTON
550	Precast Structures	C-104 B

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

3:00 pm - 5:30 pm		
310	Decorative Concrete	C-106 C
3:30 pm - 5:00 pm		
Intl-Cert	International Certification	H-CASSIDY
236-D	Material Science - Nanotechnology of Concrete M1	C-102 B
439-A	Steel Reinf-Wire	C-106 B
3:30 pm - 5:30 pm		
423/445	Adhoc Grp on Shear in Prestress Conc	C-206
3:30 pm - 5:30 pm - Sessions		
	Conservation of Historic Concrete, Part 2 of 2	C-211 A
	Emerging Technologies in Civil Infrastructure Application	C-212 B
	Fiber-Reinforced Concrete for Sustainable Structures, Part 2 of 2	C-207
	Structural Concrete Design—The Legacy of Dr. W. Gene Corley, Part 2 of 2	C-212 A
4:00 pm - 5:00 pm		
S805	ACI Collegiate Concrete Council	H-PHOENIX EAST
423-D	Bond and Development in Pretensioned Members	H-BOREIN B
4:00 pm - 5:30 pm		
123	Research	C-106 A
5:45 pm - 7:00 pm		
	Opening Session and Katharine and Bryant Mather Lecture Series	C-301 D
7:00 pm - 8:00 pm		
	Opening Reception	C-301 A&B
	Complimentary Professional Headshots	C-301 A&B
	ACI TweetUp	C-301 A&B

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Sunday, October 20, 2013 (cont.)

8:00 pm - 10:00 pm - Session

Hot Topic Session: High-Strength Reinforcing Bars—Balancing Design Requirements with Achievable Material Properties

H-REGENCY C

9:00 pm - 10:30 pm

Student and Young Professional Networking Event

H-NETWORKS BAR & GRILL

Monday, October 21, 2013

6:30 am - 8:00 am

Workshop for Technical Committee Chairs (invitation only)

C-301 C

7:00 am - 8:30 am

Speaker Development Breakfast

H-REGENCY D

7:00 am - 6:00 pm

Speaker Ready Room

C-201

7:00 am - 10:00 am

*Guest Hospitality

H-SUNDANCE

Coffee Break

C-301 A&B

7:15 am - 8:30 am

IC-Conf International - Conferences

H-BOREIN A

7:30 am - 11:30 am

349-AB Nuclear Str-Design & Materials M1

C-105 C

7:30 am - 5:00 pm

ACI Registration

C-301 A&B

8:00 am - 8:30 am

Meeting Spot

C-301 A&B

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

8:00 am - 9:00 am		
441-A	High-Strength Concrete	C-203
8:00 am - 10:00 am		
351-TG2	Specification for Epoxy Grouting between Foundations & Equipment Bases	C-202
376-D	Design & Construction Subcommittee	H-ELLIS EAST
8:00 am - 5:00 pm		
	ACI Bookstore	C-301 A&B
	Exhibits	C-301 A&B
8:15 am - 9:00 am		
343-B	Bridge Deck Design	C-106 A
8:15 am - 11:00 am		
237	Self-Consolidating Concrete	H-REGENCY C
548-A	Polymers - Overlays	H-PHOENIX EAST
8:15 am - 12:00 pm		
374	Seismic Design	C-102 B
8:30 am - 9:30 am		
S802	Teaching Methods and Educational Materials	C-103 A
8:30 am - 10:00 am		
130-A	Materials	C-102 A
439	Steel Reinforcement	C-105 A
440-E	FRP-Prof Education	H-CASSIDY
524	Plastering	C-106 B
544-SC	FRC - Steering Committee	C-103 B
8:30 am - 10:30 am		
506-C	Shotcreting-Guide	H-RUSSELL
	Complimentary Professional Headshots	C-301 A&B

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Monday, October 21, 2013 (cont.)

8:30 am - 10:30 am - Sessions

	Concrete with Recycled Materials, Part 1 of 3	C-212 B
	Electrical Methods to Characterize and Monitor Concrete, Part 1 of 2	C-213 A
	Innovative Design and Construction in Concrete Columns, Part 1 of 2	C-211 A
	No Need to Doubt, When You Grout: Advances in Cementitious Grouting, Materials, and Applications, Part 1 of 2	C-212 A
	Research in Progress, Part 1 of 2	C-207

8:30 am - 11:00 am

C610	Field Technician Cert	C-105 B
355-TG	Anchorage TG	H-REMINGTON

8:30 am - 11:30 am

209	Creep & Shrinkage	C-104 A
543	Piles	H-BOREIN A
546	Repair	H-REGENCY D

8:30 am - 12:00 pm

301-A	Spec-Gen Req, Definitions, & Tolerances	C-206
-------	---	-------

8:30 am - 12:30 pm

423	Prestressed	C-211 B
-----	-------------	---------

8:30 am - 1:00 pm

302	Floor Construction	C-101 A-C
350-B	Env Str-Durability	H-CURTIS A

8:30 am - 6:30 pm

350-D	Env Str-Structural	C-104 B
-------	--------------------	---------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

9:00 am - 10:00 am		
343-H	Detailing and Constructibility	C-106 A
441-B	Lateral Reinforcement	C-203
9:00 am - 11:00 am		
365	Service Life	C-106 C
9:00 am - 12:00 pm		
301-F	Spec-Precast Concrete Panels	H-BOREIN B
9:00 am - 1:00 pm		
	✓Musical Instrument Museum	H-DEPART MAIN LOBBY
9:00 am - 5:00 pm		
	Exhibitor Demonstrations	C-301 A&B
9:30 am - 11:00 am		
318-L	International Liaison	H-BOARDROOM
9:30 am - 12:30 pm		
318-B	Reinforcement & Development M2	C-102 C
318-E	Shear and Torsion M1	H-PHOENIX WEST
10:00 am - 11:30 am		
235	Electronic Data Exchange	H-CURTIS B
440-J	FRP Stay-in-Place Forms	C-102 A
10:00 am - 12:00 pm		
216	Fire Resistance	C-103 B
343	Bridge Design	C-106 A
351-D	Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures	H-ELLIS WEST
376-A	Code, Education & Publication Subcommittee	C-202

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Monday, October 21, 2013 (cont.)

10:00 am - 12:30 pm

377	Performance-Based Structural Integrity & Resilience of Concrete Structures	C-203
-----	--	-------

10:00 am - 1:00 pm

207	Mass Concrete	C-106 B
232-A	Natural and Other Pozzolans	H-ELLIS EAST

10:00 am - 5:00 pm

	*Guest Lounge	H-SUNDANCE
--	---------------	------------

10:30 am - 12:30 pm

437	Strength Evaluation	H-CASSIDY
506-E	Shotcreting-Specifications	H-RUSSELL

11:00 am - 12:00 pm

364-TG1	Rehabilitation Guide	H-REMINGTON
---------	----------------------	-------------

11:00 am - 12:30 pm

318-S	Spanish Translation	C-105 B
548-C	Structural Polymer Design	H-PHOENIX EAST

11:00 am - 1:00 pm - Sessions

	Concrete with Recycled Materials, Part 2 of 3	C-212 B
	No Need to Doubt, When You Grout: Advances in Cementitious Grouting, Materials, and Applications, Part 2 of 2	C-212 A
	Research in Progress, Part 2 of 2	C-207
	The Role of Silica Fume in the Conservation of Resources, Part 1 of 2	C-211 A

11:00 am - 1:30 pm

447	Finite Element Analysis M1	C-106 C
-----	----------------------------	---------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

11:00 am - 2:00 pm		
	Lunch Concession	C-301 A&B
	Afternoon Soda Break	C-301 A&B
11:30 am - 1:00 pm		
C601-A	Adhesive Anchor Installer	H-CURTIS B
201-D	Durability-Oversight Committee	H-BOREIN A
304	Measuring/Mix/Trans/Placing	C-104 A
346	CIP Pipe	H-BOARDROOM
544-A	FRC-Production & Applications	C-103 A
11:30 am - 1:30 pm		
	✓Student Lunch	C-301 C
11:30 am - 2:00 pm		
441	Columns	C-102 A
12:00 pm - 1:00 pm		
	Meeting Spot	C-301 A&B
12:00 pm - 2:00 pm		
214	Strength Tests M1	C-206
12:30 pm - 2:00 pm		
124	Aesthetics	C-106 A
350-H	Env Str-Editorial	C-203
562-E	Eval Repair and Rehab - Durability Qlty Assurance	H-ELLIS WEST
12:30 pm - 4:30 pm		
349-C	Nuclear Str - Anchorage	C-105 C
1:00 pm - 2:00 pm		
130-B	Production/Transport/Construction	H-ELLIS EAST
133	Disaster Reconnaissance	H-PHOENIX WEST

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Monday, October 21, 2013 (cont.)

1:00 pm - 2:30 pm

C631	Conc Transportation Const Insp	C-103 A
------	--------------------------------	---------

1:00 pm - 3:00 pm

C601-F	NDT Certification	H-CURTIS B
--------	-------------------	------------

122	Energy Efficiency of Concrete and Masonry Systems	H-BOREIN A
-----	---	------------

239-A	Emerging Technology Report	H-REMINGTON
-------	----------------------------	-------------

440-H	FRP-Reinforced Concrete	H-REGENCY D
-------	-------------------------	-------------

1:00 pm - 3:30 pm

375	Design for Wind Loads	H-CURTIS A
-----	-----------------------	------------

1:00 pm - 4:00 pm

232	Fly Ash & Natural Pozzolans	C-211 B
-----	-----------------------------	---------

364	Rehabilitation	C-105 B
-----	----------------	---------

376	RLG Containment Structures M1	H-CASSIDY
-----	-------------------------------	-----------

1:00 pm - 5:00 pm

225	Hydraulic Cements	H-RUSSELL
-----	-------------------	-----------

301	Specifications M3	C-106 B
-----	-------------------	---------

362	Parking Structures	C-102 C
-----	--------------------	---------

1:30 pm - 3:00 pm

506-A	Shotcreting-Evaluation	H-BOARDROOM
-------	------------------------	-------------

1:30 pm - 3:30 pm

221-TG	Task Group on AAR	H-PHOENIX EAST
--------	-------------------	----------------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

1:30 pm - 3:30 pm - Sessions		
	Concrete with Recycled Materials, Part 3 of 3	C-212 B
	Electrical Methods to Characterize and Monitor Concrete, Part 2 of 2	C-213 A
	Innovative Design and Construction in Concrete Columns, Part 2 of 2	C-212 A
	The Role of Silica Fume in the Conservation of Resources, Part 2 of 2	C-211 A
1:30 pm - 6:00 pm		
318	Building Code M1	H-REGENCY A&B
2:00 pm - 3:30 pm		
S806	Young Professional Activities Committee	C-203
231	Early Age	C-105 A
348	Safety	H-BOREIN B
564-FM	Evaluation, Repair & Rehabilitation of Nuclear Concrete Structures	C-106 A
2:00 pm - 4:00 pm		
201-TG1	Aggressive Chemicals	H-ELLIS EAST
2:00 pm - 5:00 pm		
CAC	Chapter Activities	C-102 B
MKTC	Marketing	H-ELLIS WEST
130	Sustainability M1	H-REGENCY C
212	Chemical Admixtures	C-102 A
307	Chimneys	C-202
2:00 pm - 6:00 pm		
369	Seismic Rehab M2	C-106 C
445	Shear & Torsion	H-PHOENIX WEST

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Monday, October 21, 2013 (cont.)

2:00 pm - 6:30 pm

360	Slabs on Ground	C-101 A-C
-----	-----------------	-----------

2:30 pm - 4:30 pm

351	Equip Foundations	C-103 A
-----	-------------------	---------

548-B	Adhesives in Concrete	C-103 B
-------	-----------------------	---------

3:00 pm - 4:30 pm

506-G	Qualifications for Projects	H-BOARDROOM
-------	-----------------------------	-------------

3:00 pm - 5:00 pm

	Margarita Garden - <i>Sponsored by</i>  HEADWATERS MB	C-301 A&B
--	--	-----------

3:00 pm - 6:00 pm

440-F	FRP-Repair-Strengthening	H-REGENCY D
-------	--------------------------	-------------

3:30 pm - 5:00 pm

211-P	Guide for Selecting Proportions for Pumpable Concrete	C-203
-------	---	-------

214	Strength Tests M2	C-106 A
-----	-------------------	---------

435	Deflection	H-BOREIN B
-----	------------	------------

446	Fracture Mechanics	H-PHOENIX EAST
-----	--------------------	----------------

	*Guest Social	H-GARDEN TERRACE
--	---------------	------------------

3:30 pm - 5:30 pm

239	Ultra-High-Performance Concrete	C-104 A
-----	---------------------------------	---------

3:30 pm - 6:00 pm

544-D	FRC-Structural Uses	C-105 A
-------	---------------------	---------

3:30 pm - 6:30 pm

350-J	Env Str-Education	C-206
-------	-------------------	-------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

4:00 pm - 6:00 pm		
201-TG2	Physical Salt Attack	H-ELLIS EAST
423-F	Sustainable Prestressed Concrete	H-CASSIDY
4:00 pm - 6:00 pm - Sessions		
	A Fresh Look at Cementitious Materials and Admixtures	C-212 A
	Design Detailing to Mitigate Cracking	C-207
	Laboratory Test Methods for Corrosion Assessment: Technical Review and Practical Implications, Part 1 of 2	C-211 A
	Recent Advances on Soil-Foundation-Structure Interaction in Seismic Bridge Design	C-212 B
	Undergraduate Research on Concrete Materials, Structural Design, or Construction	C-213 A
4:30 pm - 5:30 pm		
236	Material Science	C-211 B
506-F	Shotcreting-Underground	C-103 B
5:00 pm - 6:00 pm		
334	Shells	C-203
5:00 pm - 6:30 pm		
E702	Designing Concrete Structures	H-REMINGTON
447	Finite Element Analysis Task Group M2	H-BOARDROOM
544-E	FRC-Mechanical Properties	H-ELLIS WEST
555	Recycled	C-106 B
5:00 pm - 7:00 pm		
E703	Concrete Construction Practices	H-BOREIN A
6:00 pm - 7:00 pm		
	Women in ACI Reception	H-COWBOY

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Monday, October 21, 2013 (cont.)

6:00 pm - 9:00 pm

	✓Rawhide Western Town Event	H-DEPART MAIN LOBBY
--	-----------------------------	---------------------

6:30 pm - 8:30 pm

	123 Forum: Can Cement Specifications Be Used to Reduce Cracking in Concrete?	H-CURTIS A&B
--	--	--------------

Tuesday, October 22, 2013

6:30 am - 8:30 am

TTAG	Technology Transfer Advisory Group	H-PHOENIX WEST
------	------------------------------------	----------------

7:00 am - 8:30 am

TRRC	TAC Repair & Rehab	H-PHOENIX EAST
------	--------------------	----------------

7:00 am - 6:00 pm

	Speaker Ready Room	C-201 BOARDROOM
--	--------------------	-----------------

7:00 am - 10:00 am

	*Guest Hospitality	H-SUNDANCE
--	--------------------	------------

	Coffee Break	C-301 A&B
--	--------------	-----------

7:00 am - 12:00 pm

EAC	Educational Activities M2	C-103 B
-----	---------------------------	---------

7:30 am - 9:00 am

130-G	Education/Certification	H-CASSIDY
-------	-------------------------	-----------

7:30 am - 5:00 pm

	ACI Registration	C-301 A&B
--	------------------	-----------

8:00 am - 8:30 am

	Meeting Spot	C-301 A&B
--	--------------	-----------

8:00 am - 9:00 am

IJBRC	International Joints and Bearings Research Council	H-BOREIN A
-------	--	------------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

8:00 am - 9:30 am		
C601	New Certification Programs	H-RUSSELL
230	Soil Cement	H-ELLIS WEST
8:00 am - 10:00 am		
211-C	Proportioning-No Slump	H-BOARDROOM
238	Workability of Fresh Concrete	H-312
444	Structural Health Monitoring and Instrumentation	H-BOREIN B
8:00 am - 11:00 am		
201	Durability	H-REGENCY D
440	Fiber-Reinforced Polymer	C-101 A-C
522	Pervious Concrete	C-105 B
8:00 am - 12:00 pm		
	✓Talesin West - Design Studio of Frank Lloyd Wright	H-DEPART MAIN LOBBY
8:00 am - 12:30 pm		
318-B	Reinforcement & Development M2	C-102 A
318-D	Flexure & Axial Loads	C-102 C
318-E	Shear & Torsion M2	C-103 A
318-G	Prestressed Precast	C-102 B
8:00 am - 5:00 pm		
	ACI Bookstore	C-301 A&B
	Exhibits	C-301 A&B
8:30 am - 10:00 am		
C620	Laboratory Tech Cert	C-105 C
544-B	FRC-Education	C-211 B

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Tuesday, October 22, 2013 (cont.)

8:30 am - 10:30 am

357	Offshore & Marine	C-202
523	Cellular Concrete	H-318
560	Design & Constr ICFs	H-PHOENIX WEST

8:30 am - 10:30 am - Sessions

	Contractors' Day Session: Help I'm Being Sued!	C-207
	Design and Construction of Durable Concrete Parking Structures, Part 1 of 2	C-212 A
	Innovation in Cooling Mass Concrete	C-212 B
	Laboratory Test Methods for Corrosion Assessment: Technical Review and Practical Implications, Part 2 of 2	C-211 A

8:30 am - 11:00 am

306	Cold Weather	H-CURTIS B
-----	--------------	------------

8:30 am - 11:30 am

117	Tolerances	C-106 A
350-G&K	Env Str-Tightness Testing/Haz Mat	C-203
506	Shotcreting	H-COWBOY
548	Polymers and Polymer Adhesives for Concrete	C-106 B

8:30 am - 3:30 pm

350-F	Env Str-Seismic	H-REMINGTON
-------	-----------------	-------------

9:00 am - 10:00 am

325-A	Pavements-Design	H-CURTIS A
-------	------------------	------------

9:00 am - 10:30 am

332-B	Residential Concrete Materials and Placement	H-PHOENIX EAST
332-D	Residential Concrete-Footings & Foundation Walls	H-CASSIDY

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

9:00 am - 11:00 am		
515	Protective Systems	H-BOREIN A
PATG	Project Awards TG	C-106 C
9:00 am - 11:30 am		
IAC	International Advisory Committee	C-105 A
9:00 am - 5:00 pm		
	Exhibitor Demonstrations	C-301 A&B
9:30 am - 11:00 am		
130-E	Design/Specifications/Codes/Regulations	H-ELLIS WEST
9:30 am - 11:30 am		
PUBC	Publications	H-RUSSELL
10:00 am - 11:30 am		
C630	Construction Inspector Cert	H-BOREIN B
10:00 am - 12:00 pm		
211-A	Proportioning-Editorial	H-BOARDROOM
10:00 am - 1:00 pm		
349/359	349/359 Joint Task Group	C-105 C
371	Elevated Tanks with Concrete Pedestals	H-CURTIS A
10:00 am - 5:00 pm		
	*Guest Lounge	H-SUNDANCE
10:30 am - 12:00 pm		
325-C	Pavements-Prestressed and Precast	C-202
332-E	Residential Concrete-Above Grade Walls	H-CASSIDY
332-F	Residential Concrete-Slabs	H-PHOENIX EAST
544-F	FRC-Durability	C-211 B

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Tuesday, October 22, 2013 (cont.)

10:30 am - 1:00 pm

526	Autoclaved Aerated Concrete	H-318
-----	-----------------------------	-------

11:00 am - 1:00 pm

CRC	Concrete Research Council	H-REGENCY D
-----	---------------------------	-------------

130	Sustainability of Concrete M2	C-101 A-C
-----	-------------------------------	-----------

327	RCC Pavements	C-106 C
-----	---------------	---------

11:00 am - 1:00 pm - Sessions

	Admixtures for SCC	C-211 A
--	--------------------	---------

	Design and Construction of Durable Concrete Parking Structures, Part 2 of 2	C-212 A
--	---	---------

	Sustainable Solutions for Seismic Repair of Bridges	C-212 B
--	---	---------

	Tablets in the Workplace	C-207
--	--------------------------	-------

11:00 am - 2:00 pm

	Lunch Concession	C-301 A&B
--	------------------	-----------

	Afternoon Soda Break	C-301 A&B
--	----------------------	-----------

11:30 am - 12:30 pm

236-TG2	Sustainability Engineered by Material Science	H-COWBOY
---------	---	----------

11:30 am - 1:00 pm

E707	Specification Education	H-BOREIN B
------	-------------------------	------------

211-E	Proportioning-Evaluation	C-203
-------	--------------------------	-------

213-TG1	Lightweight-Editorial TG	H-BOREIN A
---------	--------------------------	------------

11:30 am - 1:30 pm

	✓Contractors' Day Lunch	C-104 A&B
--	-------------------------	-----------

11:30 am - 5:00 pm

350-A	Env Str-General & Concrete	H-RUSSELL
-------	----------------------------	-----------

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

12:00 pm - 1:00 pm		
	Meeting Spot	C-301 A&B
12:30 pm - 2:00 pm		
C680	Adhesive Anchor Installer-Joint CRSI	H-PHOENIX WEST
1:00 pm - 2:00 pm		
223-TG1	Design Considerations	H-BOARDROOM
1:00 pm - 3:00 pm		
201-TG	Task Group on Chemical Attack	H-BOREIN B
211-F	Proportioning Submittals	C-203
211-I	Assessing Aggregate Gradation	H-BOREIN A
236-D	Material Science-Nanotechnology of Concrete M2	C-103 B
325-D	Proportioning for Pavements	H-CURTIS B
1:00 pm - 5:00 pm		
563	Specs Repair of Sruct Concrete in Buildings M2	H-318
1:30 pm - 3:00 pm		
120	History	C-106 C
544-C	FRC-Testing	C-211 B
1:30 pm - 3:30 pm		
213	Lightweight	H-COWBOY
1:30 pm - 3:30 pm - Sessions		
	Contractors' Day Session: Economic Forecast for the Concrete Industry	C-207
	I'm Cured! What's New in Curing Concrete? Part 1 of 2	C-212 A
	Open Paper Session, Part 1 of 2	C-211 A
	Workability of Sustainable Concrete	C-212 B

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Tuesday, October 22, 2013 (cont.)

1:30 pm - 5:00 pm

332	Residential Concrete	H-REGENCY D
349	Nuclear Structures	C-101 A-C

1:30 pm - 6:00 pm

318-A	General Concrete Constr	C-103 A
318-C	Serviceability/Safety M2	C-102 B
318-H	Seismic Provisions M1	C-102 C
318-R	Code Reorganization	C-102 A

2:00 pm - 3:30 pm

118	Computers	H-ELLIS WEST
325-E	Accelerated Paving	C-202

2:00 pm - 4:00 pm

130-D	Rating Systems/Sustainability Tools	C-106 A
234	Silica Fume	H-ELLIS EAST

2:00 pm - 5:00 pm

CPC	Certification Programs	H-PHOENIX EAST
222	Corrosion	C-106 B
223	Shrinkage Compensating	H-PHOENIX WEST
229	Controlled Low Strength	C-105 B
233	Ground Slag	C-105 C

3:00 pm - 4:00 pm

236-TG1	Advanced Analysis Techniques	C-103 B
---------	------------------------------	---------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B


✓= Separate fee required

*= Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

3:00 pm - 5:00 pm		
	Beer Garden - <i>Sponsored by</i>  HEADWATERS MB	C-301 A&B
CC	Convention Committee M2	C-105 A
131	Building Information Modeling of Concrete Structures	C-106 C
211-N	Proportioning with Ground Limestone and Mineral Fillers	H-CURTIS B
372	Prestressed/Wire Wrapped	C-203
3:00 pm - 5:30 pm		
544	Fiber-Reinforced Concrete	C-211 B
3:30 pm - 5:00 pm		
363-A	High-Strength Lightweight Concrete	C-202
3:30 pm - 5:30 pm		
325	Pavements	H-COWBOY
4:00 pm - 5:30 pm		
308-B	Curing-Specifications	C-103 B
4:00 pm - 6:00 pm		
350-L	Env Str-Specification	H-BOREIN B
4:00 pm - 6:00 pm - Sessions		
	Blast Blind Predict of Response of Concrete Slabs Subjected to Blast Loading	C-212 B
	Contractors' Day Session: Lean Construction Principles and Scheduling	C-207
	I'm Cured! What's New in Curing Concrete? Part 2 of 2	C-212 A
	Open Paper Session, Part 2 of 2	C-211 A
5:30 pm - 6:30 pm		
	Faculty Network Reception	H-GARDEN TERRACE

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Tuesday, October 22, 2013 (cont.)

6:30 pm - 9:00 pm

	Concrete Mixer	ARIZONA SCIENCE CENTER
--	----------------	------------------------

Wednesday, October 23, 2013

7:00 am - 9:00 am

SYPAC	Student and Young Professional Activities Committee	H-CURTIS A
-------	---	------------

7:00 am - 10:00 am

	*Guest Hospitality	H-SUNDANCE
	Coffee Break	H-ATRIUM

7:30 am - 10:00 am

TCSC	TAC Construction Standards Committee	H-REGENCY D
------	--------------------------------------	-------------

8:00 am - 9:30 am

552	Cementitious Grouting	H-BOREIN A
-----	-----------------------	------------

8:00 am - 10:00 am

308-A	Curing-Guide	H-REMGTON
-------	--------------	-----------

8:00 am - 2:00 pm

	ACI Cyber Café	H-ATRIUM
--	----------------	----------

8:00 am - 4:00 pm

330	Parking Lots & Site Paving	H-CURTIS B
-----	----------------------------	------------

8:00 am - 5:00 pm

350	Environmental Structures	H-COWBOY
-----	--------------------------	----------

8:00 am - 6:00 pm

318	Building Code M2	H-REGENCY A&B
-----	------------------	---------------

8:30 am - 10:00 am

C601-C	Masonry Testing Technician	H-316
--------	----------------------------	-------

Daily Program

All program changes will be available at the ACI Registration Desk located in C-301 A&B

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

8:30 am - 10:30 am		
303	Architectural CIP	H-SUITE 322
8:30 am - 10:30 am - Sessions		
	Cast-in-Place Concrete Pipe Then and Now	H-ELLIS EAST
	Cracking the ASR Mystery, Part 1 of 2	H-PHOENIX WEST
	Performance-Based Seismic Design: Lessons Learned from Recent Earthquakes, Part 1 of 2	H-PHOENIX EAST
	UHPC Innovations for Durability and Resiliency	H-ELLIS WEST
8:30 am - 11:30 am		
211	Proportioning	H-RUSSELL
363	High-Strength	H-CASSIDY
9:00 am - 12:00 pm		
ACIFdn	ACI Foundation	H-CURTIS A
10:00 am - 12:30 pm		
C601-B	Concrete Quality Technical Mgr	H-BOREIN A
10:00 am - 1:00 pm		
308	Curing	H-REMINGTON
10:00 am - 5:00 pm		
	*Guest Lounge	H-SUNDANCE
10:30 am - 12:30 pm		
329	Performance Criteria for Ready-Mixed Concrete	H-REGENCY D
10:30 am - 2:30 pm		
	✓A Taste of Old Town Scottsdale	H-DEPART MAIN LOBBY

Daily Program

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

11:00 am - 1:00 pm - Sessions		
	Bio-Inspired Construction Materials	H-ELLIS EAST
	Cracking the ASR Mystery, Part 2 of 2	H-PHOENIX WEST
	Performance-Based Seismic Design: Lessons Learned from Recent Earthquakes, Part 2 of 2	H-PHOENIX EAST
Wednesday, October 23, 2013 (cont.)		
11:30 am - 1:00 pm		
C601-D	Decorative Concrete Finisher	H-RUSSELL
1:00 pm - 3:30 pm		
311	Inspection	H-BOREIN A
Thursday, October 24, 2013		
8:00 am - 5:00 pm		
	✓New! ACI Step-by-Step Design of Reinforced Concrete Buildings Up to Five Floors Seminar	H-CURTIS A
10:45 am - 5:00 pm		
BOD	Board of Direction	H-ELLIS EAST & WEST

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
ACIFdn	ACI Foundation	Wed	9:00 am - 12:00 pm	H-CURTIS A
BOD	Board of Direction	Thu	10:45 am - 5:00 pm	H-ELLIS EAST & WEST
C601	New Certification Programs	Tue	8:00 am - 9:30 am	H-RUSSELL
C601-A	Adhesive Anchor Installer	Mon	11:30 am - 1:00 pm	H-CURTIS B
C601-B	Concrete Quality Technical Mgr	Wed	10:00 am - 12:30 pm	H-BOREIN A
C601-C	Masonry Testing Technician	Wed	8:30 am - 10:00 am	H-316
C601-D	Decorative Concrete Finisher	Wed	11:30 am - 1:00 pm	H-RUSSELL
C601-F	Nondestructive Testing Technician	Mon	1:00 pm - 3:00 pm	H-CURTIS B
C610	Field Technician Cert	Mon	8:30 am - 11:00 am	C-105 B
C620	Laboratory Tech Cert	Tue	8:30 am - 10:00 am	C-105 C
C630	Construction Inspector Cert	Tue	10:00 am - 11:30 am	H-BOREIN B
C631	Conc Transportation Const Insp	Mon	1:00 pm - 2:30 pm	C-103 A
C640	Craftsman Cert	Sun	11:00 am - 1:00 pm	C-102 C
C650	Tilt-Up Constructor Cert	Sun	2:00 pm - 3:30 pm	H-CURTIS A
C660	Shotcrete Nozzleman Cert	Sun	10:00 am - 12:00 pm	H-PHOENIX EAST
C680	Adhesive Anchor Installer	Tue	12:30 pm - 2:00 pm	H-PHOENIX WEST
CAC	Chapter Activities	Mon	2:00 pm - 5:00 pm	C-102 B
CC	Convention Committee M2	Tue	3:00 pm - 5:00 pm	C-105 A
CLC	Construction Liaison	Sun	8:00 am - 10:30 am	C-102 C
CPC	Certification Programs	Tue	2:00 pm - 5:00 pm	H-PHOENIX EAST
CRC	Concrete Research Council	Tue	11:00 am - 1:00 pm	H-REGENCY D
E701	Materials for Concrete Construction	Sun	10:00 am - 11:30 am	C-103 A
E702	Designing Concrete Structures	Mon	5:00 pm - 6:30 pm	H-REMINGTON
E703	Concrete Construction Practices	Mon	5:00 pm - 7:00 pm	H-BOREIN A
E706	Concrete Repair Education	Sun	8:00 am - 10:00 am	C-105 B
E707	Specification Education	Tue	11:30 am - 1:00 pm	H-BOREIN B

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
EAC	Educational Activities M1	Sat	1:00 pm - 5:00 pm	H-RUSSELL A
EAC	Educational Activities M2	Tue	7:00 am - 12:00 pm	C-103 B
HTC	Hot Topic	Sun	2:30 pm - 4:00 pm	H-PHOENIX EAST
IAC	International Advisory Committee	Tue	9:00 am - 11:30 am	C-105 A
IC-Conf	International Conferences	Mon	7:15 am - 8:30 am	H-BOREIN A
IF	International Forum	Sun	10:00 am - 11:30 am	C-211 A
IJBRC	Joints & Bearings Research	Tue	8:00 am - 9:00 am	H-BOREIN A
Intl-Cert	International Certification	Sun	3:30 pm - 5:00 pm	H-CASSIDY
ITG-10	Alternative Cementitious Materials	Sun	8:00 am - 11:00 am	H-COWBOY
MEMC	Membership	Sun	8:30 am - 11:30 am	C-104 A
MKTC	Marketing	Mon	2:00 pm - 5:00 pm	H-ELLIS WEST
PATG	Task Group on Project Awards	Tue	9:00 am - 11:00 am	C-106 C
PUBC	Publications	Tue	9:30 am - 11:30 am	H-RUSSELL
S801	Student Activities	Sun	8:00 am - 10:00 am	C-103 A
S802	Teaching Methods and Educational Materials	Mon	8:30 am - 9:30 am	C-103 A
S805	ACI Collegiate Concrete Council	Sun	4:00 pm - 5:00 pm	H-PHOENIX EAST
S806	Young Professional Activities	Mon	2:00 pm - 3:30 pm	C-203
SCO	Scholarship Council	Sun	12:00 pm - 2:00 pm	H-CURTIS A
SY PAC	Student and Young Professional Activities	Wed	7:00 am - 9:00 am	H-CURTIS A
TAC	Technical Activities M1	Fri	6:30 pm - 9:00 pm	H-ELLIS WEST
TAC	Technical Activities M2	Sat	7:00 am - 6:00 pm	H-PHOENIX WEST
TAC	Technical Activities M3	Sun	7:00 am - 2:00 pm	H-PHOENIX WEST
TACRG1	TAC Review Group 1	Sun	8:00 am - 11:00 am	H-CURTIS A
TACRG2	TAC Review Group 2	Sun	8:00 am - 11:00 am	H-CURTIS B
TACRG3	TAC Review Group 3	Sun	8:00 am - 11:00 am	H-BOREIN A
TACRG4	TAC Review Group 4	Sun	8:00 am - 11:00 am	H-BOREIN B

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
TCSC	TAC Construction Stnds	Wed	7:30 am - 10:00 am	H-REGENCY D
TRRC	TAC Repair & Rehab	Tue	7:00 am - 8:30 am	H-PHOENIX EAST
TTAG	Technology Transfer Advisory Group	Tue	6:30 am - 8:30 am	H-PHOENIX WEST
117	Tolerances	Tue	8:30 am - 11:30 am	C-106 A
118	Computers	Tue	2:00 pm - 3:30 pm	H-ELLIS WEST
120	History	Tue	1:30 pm - 3:00 pm	C-106 C
121	Quality Assurance	Sun	3:00 pm - 5:00 pm	C-104 A
122	Energy Efficiency	Mon	1:00 pm - 3:00 pm	H-BOREIN A
123	Research	Sun	4:00 pm - 5:30 pm	C-106 A
124	Aesthetics	Mon	12:30 pm - 2:00 pm	C-106 A
130	Sustainability M1	Mon	2:00 pm - 5:00 pm	H-REGENCY C
130	Sustainability M2	Tue	11:00 am - 1:00 pm	C-101 A-C
130-A	Materials	Mon	8:30 am - 10:00 am	C-102 A
130-B	Production/Transport/Construction	Mon	1:00 pm - 2:00 pm	H-ELLIS EAST
130-D	Rating Systems/Sustainability Tools	Tue	2:00 pm - 4:00 pm	C-106 A
130-E	Design/Specifications/Codes/Regulations	Tue	9:30 am - 11:00 am	H-ELLIS WEST
130-G	Education/Certification	Tue	7:30 am - 9:00 am	H-CASSIDY
131	BIM M1	Sat	8:00 am - 5:00 pm	H-CURTIS B
131	BIM M2	Tue	3:00 pm - 5:00 pm	C-106 C
132	Responsibility	Sun	2:00 pm - 5:00 pm	H-RUSSELL
133	Disaster Reconnaissance	Mon	1:00 pm - 2:00 pm	H-PHOENIX WEST
201	Durability	Tue	8:00 am - 11:00 am	H-REGENCY D
201-D	Durability-Oversight Committee	Mon	11:30 am - 1:00 pm	H-BOREIN A
201-TG	Task Group on Chemical Attack	Tue	1:00 pm - 3:00 pm	H-BOREIN B
201-TG1	Aggressive Chemicals	Mon	2:00 pm - 4:00 pm	H-ELLIS EAST
201-TG2	Physical Salt Attack	Mon	4:00 pm - 6:00 pm	H-ELLIS EAST

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
207	Mass Concrete	Mon	10:00 am - 1:00 pm	C-106 B
209	Creep & Shrinkage	Mon	8:30 am - 11:30 am	C-104 A
211	Proportioning	Wed	8:30 am - 11:30 am	H-RUSSELL
211-A	Proportioning-Editorial	Tue	10:00 am - 12:00 pm	H-BOARDROOM
211-C	Proportioning-No Slump	Tue	8:00 am - 10:00 am	H-BOARDROOM
211-E	Proportioning-Evaluation	Tue	11:30 am - 1:00 pm	C-203
211-F	Proportioning-Submittal	Tue	1:00 pm - 3:00 pm	C-203
211-I	Assessing Aggregate Gradation	Tue	1:00 pm - 3:00 pm	H-BOREIN A
211-N	Proportioning - Limestone	Tue	3:00 pm - 5:00 pm	H-CURTIS B
211-P	Prptns Pump Conc	Mon	3:30 pm - 5:00 pm	C-203
212	Chemical Admixtures	Mon	2:00 pm - 5:00 pm	C-102 A
213	Lightweight	Tue	1:30 pm - 3:30 pm	H-COWBOY
213-TG1	Lightweight - Editorial TG	Tue	11:30 am - 1:00 pm	H-BOREIN A
214	Strength Tests M1	Mon	12:00 pm - 2:00 pm	C-206
214	Strength Tests M2	Mon	3:30 pm - 5:00 pm	C-106 A
215	Fatigue	Sun	2:00 pm - 4:00 pm	H-BOREIN B
216	Fire Resistance	Mon	10:00 am - 12:00 pm	C-103 B
221	Aggregates	Sun	11:30 am - 1:00 pm	H-COWBOY
221-TG	Task Group on AAR	Mon	1:30 pm - 3:30 pm	H-PHOENIX EAST
222	Corrosion	Tue	2:00 pm - 5:00 pm	C-106 B
223	Shrinkage Compensating	Tue	2:00 pm - 5:00 pm	H-PHOENIX WEST
223-TG1	Design Considerations	Tue	1:00 pm - 2:00 pm	H-BOARDROOM
224	Cracking	Sun	2:30 pm - 5:00 pm	C-102 C
225	Hydraulic Cements	Mon	1:00 pm - 5:00 pm	H-RUSSELL
228	Nondestructive Testing	Sun	9:30 am - 12:30 pm	C-211 B
228-B	Visual Inspection	Sun	1:00 pm - 3:00 pm	C-104 A

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
229	Controlled Low Strength	Tue	2:00 pm - 5:00 pm	C-105 B
230	Soil Cement	Tue	8:00 am - 9:30 am	H-ELLIS WEST
231	Early Age	Mon	2:00 pm - 3:30 pm	C-105 A
232	Fly Ash & Natural Pozzolans	Mon	1:00 pm - 4:00 pm	C-211 B
232-A	Natural and Other Pozzolans	Mon	10:00 am - 1:00 pm	H-ELLIS EAST
233	Slag Cement	Tue	2:00 pm - 5:00 pm	C-105 C
234	Silica Fume	Tue	2:00 pm - 4:00 pm	H-ELLIS EAST
235	Electronic Data Exchange	Mon	10:00 am - 11:30 am	H-CURTIS B
236	Material Science	Mon	4:30 pm - 5:30 pm	C-211 B
236-B	Material Science - Transport Mechanisms	Sun	2:00 pm - 3:30 pm	C-102 B
236-D	Material Science - Nanotechnology of Concrete M1	Sun	3:30 pm - 5:00 pm	C-102 B
236-D	Material Science - Nanotechnology of Concrete M2	Tue	1:00 pm - 3:00 pm	C-103 B
236-TG1	Advanced Analysis Techniques for Concrete	Tue	3:00 pm - 4:00 pm	C-103 B
236-TG2	Sustnbly Mtrl Scnce	Tue	11:30 am - 12:30 pm	H-COWBOY
237	Self-Consolidating Concrete	Mon	8:15 am - 11:00 am	H-REGENCY C
237-TG1	Self-Consolidating Concrete Task Group	Sun	11:00 am - 3:30 pm	C-206
238	Workability of Fresh Concrete	Tue	8:00 am - 10:00 am	H-312
239	Ultra-High-Performance Concrete	Mon	3:30 pm - 5:30 pm	C-104 A
239-A	Emerging Technology Report	Mon	1:00 pm - 3:00 pm	H-REMINGTON
301	Specifications M1	Sat	1:00 pm - 5:00 pm	H-PHOENIX EAST
301	Specifications M2	Sun	8:30 am - 12:00 pm	H-REGENCY C
301	Specifications M3	Mon	1:00 pm - 5:00 pm	C-106 B
301-A	Spec-Gen Req, Definitions, & Tolerances	Mon	8:30 am - 12:00 pm	C-206
301-B	Spec-Formwork & Reinforcement	Sun	12:30 pm - 4:30 pm	H-CURTIS B
301-C	Spec-Placing Consolidating & Curing	Sun	1:00 pm - 5:00 pm	C-105 B
301-D	Spec-Lightweight & Massive Concrete	Sun	1:00 pm - 5:00 pm	C-203

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
301-E	Spec-Post-Tensioned Concrete	Sun	3:00 pm - 5:00 pm	H-ELLIS EAST
301-F	Spec-Precast Concrete Panels	Mon	9:00 am - 12:00 pm	H-BOREIN B
301-G	Spec-Shrink Comp Conc & Ind Floor Slabs	Sun	1:00 pm - 5:00 pm	C-202
301-H	Spec-Tilt-Up Constr & Arch Conc	Sun	12:30 pm - 4:30 pm	H-BOARDROOM
301-SC	Spec-Steering Committee	Sun	7:00 am - 8:15 am	H-REGENCY C
302	Floor Construction	Mon	8:30 am - 1:00 pm	C-101 A-C
303	Architectural CIP	Wed	8:30 am - 10:30 am	H-SUITE 322
304	Measuring/Mix/Trans/Placing	Mon	11:30 am - 1:00 pm	C-104 A
305	Hot Weather	Sun	2:00 pm - 4:00 pm	C-106 A
306	Cold Weather	Tue	8:30 am - 11:00 am	H-CURTIS B
307	Chimneys	Mon	2:00 pm - 5:00 pm	C-202
308	Curing	Wed	10:00 am - 1:00 pm	H-REMINGTON
308-A	Curing-Guide	Wed	8:00 am - 10:00 am	H-REMINGTON
308-B	Curing-Specifications	Tue	4:00 pm - 5:30 pm	C-103 B
309	Consolidation	Sun	3:00 pm - 5:00 pm	H-BOREIN A
310	Decorative Concrete	Sun	3:00 pm - 5:30 pm	C-106 C
310-TG1	Curing Decorative Concrete	Sun	2:00 pm - 3:00 pm	H-PHOENIX WEST
311	Inspection	Wed	1:00 pm - 3:30 pm	H-BOREIN A
314	Simplified Design Buildings	Sun	8:30 am - 11:30 am	C-102 A
315	Detailing	Sun	2:00 pm - 5:00 pm	C-103 A
315-B	Detailing-Constructibility	Sun	8:30 am - 11:30 am	C-103 B
318	Building Code M1	Mon	1:30 pm - 6:00 pm	H-REGENCY A&B
318	Building Code M2	Wed	8:00 am - 6:00 pm	H-REGENCY A&B
318-A	General Concrete Constr	Tue	1:30 pm - 6:00 pm	C-103 A
318-B	Reinforcement & Development M1	Mon	9:30 am - 12:30 pm	C-102 C
318-B	Reinforcement & Development M2	Tue	8:00 am - 12:30 pm	C-102 A

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
318-C	Serviceability/Safety M2	Tue	1:30 pm - 6:00 pm	C-102 B
318-D	Flexure & Axial Loads M2	Tue	8:00 am - 12:30 pm	C-102 C
318-E	Shear & Torsion M1	Mon	9:30 am - 12:30 pm	H-PHOENIX WEST
318-E	Shear & Torsion M2	Tue	8:00 am - 12:30 pm	C-103 A
318-EA	Electronic Aids	Sun	9:30 am - 10:30 am	H-ELLIS WEST
318-G	Prestressed Precast	Tue	8:00 am - 12:30 pm	C-102 B
318-H	Seismic Provisions M1	Tue	1:30 pm - 6:00 pm	C-102 C
318-L	International Liaison	Mon	9:30 am - 11:00 am	H-BOARDROOM
318-R	Code Reorganization	Tue	1:30 pm - 6:00 pm	C-102 A
318-S	Spanish Translation	Mon	11:00 am - 12:30 pm	C-105 B
325	Pavements	Tue	3:30 pm - 5:30 pm	H-COWBOY
325-A	Pavements-Design	Tue	9:00 am - 10:00 am	H-CURTIS A
325-C	Pavements-Prestressed and Precast	Tue	10:30 am - 12:00 pm	C-202
325-D	Proportioning for Pavements	Tue	1:00 pm - 3:00 pm	H-CURTIS B
325-E	Accelerated Paving	Tue	2:00 pm - 3:30 pm	C-202
327	RCC Pavements	Tue	11:00 am - 1:00 pm	C-106 C
329	Perf. Ready Mixed	Wed	10:30 am - 12:30 pm	H-REGENCY D
330	Parking Lots & Site Paving	Wed	8:00 am - 4:00 pm	H-CURTIS B
332	Residential Concrete	Tue	1:30 pm - 5:00 pm	H-REGENCY D
332-B	Conc Mtrls and Plcmnt	Tue	9:00 am - 10:30 am	H-PHOENIX EAST
332-D	Residential Concrete - Footings & Foundation Walls	Tue	9:00 am - 10:30 am	H-CASSIDY
332-E	Residential Concrete-Above Grade Walls	Tue	10:30 am - 12:00 pm	H-CASSIDY
332-F	Residential Concrete-Slabs	Tue	10:30 am - 12:00 pm	H-PHOENIX EAST
334	Shells	Mon	5:00 pm - 6:00 pm	C-203
335	Composite Hybrid	Sun	11:30 am - 1:00 pm	C-104 A
336	Footings	Sun	1:00 pm - 5:00 pm	H-COWBOY

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
341	Earthquake-Resistant Bridges	Sun	3:00 pm - 5:00 pm	C-105 A
341-A	Equake Res Brdgs-Columns	Sun	8:00 am - 9:30 am	C-105 A
341-B	Equake Res Brdgs-Pier Walls	Sun	1:30 pm - 3:00 pm	C-105 A
341-C	Equake Res Brdgs-Retrofit	Sun	11:00 am - 12:30 pm	C-105 A
341-D	Perf Based Seismic Design	Sun	9:30 am - 11:00 am	C-105 A
342	Bridge Evaluation	Sun	8:30 am - 10:00 am	H-PHOENIX EAST
343	Bridge Design	Mon	10:00 am - 12:00 pm	C-106 A
343-A	Design	Sun	11:00 am - 12:00 pm	H-ELLIS EAST
343-B	Bridge Deck	Mon	8:15 am - 9:00 am	C-106 A
343-G	Editorial	Sun	10:00 am - 11:00 am	H-ELLIS EAST
343-H	Detailing and Constructibility	Mon	9:00 am - 10:00 am	C-106 A
345	Bridge Construction	Sun	1:30 pm - 3:30 pm	C-106 B
346	CIP Pipe	Mon	11:30 am - 1:00 pm	H-BOARDROOM
347	Formwork M1	Sat	9:00 am - 6:00 pm	H-RUSSELL C
347	Formwork M2	Sun	8:30 am - 12:30 pm	H-REGENCY B
347-A	Formwork-Specification	Sat	7:00 pm - 9:00 pm	H-RUSSELL C
348	Safety	Mon	2:00 pm - 3:30 pm	H-BOREIN B
349	Nuclear Structures	Tue	1:30 pm - 5:00 pm	C-101 A-C
349/359	ACI 349 and ACI 359 Joint Committee TG	Tue	10:00 am - 1:00 pm	C-105 C
349-AB	Nuclear Structures-Design & Materials M1	Mon	7:30 am - 11:30 am	C-105 C
349-C	Nuclear Str-Anchorage	Mon	12:30 pm - 4:30 pm	C-105 C
350	Environmental Structures	Wed	8:00 am - 5:00 pm	H-COWBOY
350-A	Env Str-General & Concrete	Tue	11:30 am - 5:00 pm	H-RUSSELL
350-B	Env Str-Durability	Mon	8:30 am - 1:00 pm	H-CURTIS A
350-C	Env Str-Reinf & Devel	Sun	8:30 am - 11:30 am	C-202
350-D	Env Str-Structural	Mon	8:30 am - 6:30 pm	C-104 B

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
350-E	Env Str-Precast/Prestressed	Sun	1:00 pm - 5:00 pm	C-105 C
350-F	Env Str-Seismic	Tue	8:30 am - 3:30 pm	H-REMINGTON
350-G&K	Env Str-Tightness Testing/Haz Mat	Tue	8:30 am - 11:30 am	C-203
350-H	Env Str-Editorial	Mon	12:30 pm - 2:00 pm	C-203
350-J	Env Str-Education	Mon	3:30 pm - 6:30 pm	C-206
350-L	Env Str-Specification	Tue	4:00 pm - 6:00 pm	H-BOREIN B
350-SC	Env Str-Steering Comm	Sun	11:30 am - 1:00 pm	C-202
351	Equip Foundations	Mon	2:30 pm - 4:30 pm	C-103 A
351-C	Equip Fdns - Dynamic Fdns	Sun	1:00 pm - 3:00 pm	H-BOREIN A
351-D	Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures	Mon	10:00 am - 12:00 pm	H-ELLIS WEST
351-TG1	Spec for Cementitious Grouting between Foundations & Equipment Bases	Sun	11:00 am - 1:00 pm	H-CASSIDY
351-TG2	Specification for Epoxy Grouting between Foundations & Equipment Bases	Mon	8:00 am - 10:00 am	C-202
352	Joints	Sun	2:00 pm - 5:00 pm	C-211 B
355	Anchorage M1	Sun	1:30 pm - 5:00 pm	C-101 A-C
355-TG	Anchorage TG	Mon	8:30 am - 11:00 am	H-REMINGTON
357	Offshore & Marine	Tue	8:30 am - 10:30 am	C-202
360	Slabs on Ground	Mon	2:00 pm - 6:30 pm	C-101 A-C
362	Parking Structures	Mon	1:00 pm - 5:00 pm	C-102 C
362-A	Updating Guide to Struct Maint of Pkg Struct Doc	Sun	1:00 pm - 4:00 pm	H-ELLIS WEST
363	High-Strength	Wed	8:30 am - 11:30 am	H-CASSIDY
363-A	High-Strength Lightweight Concrete	Tue	3:30 pm - 5:00 pm	C-202
364	Rehabilitation	Mon	1:00 pm - 4:00 pm	C-105 B
364-TG1	Rehab Guide	Mon	11:00 am - 12:00 pm	H-REMINGTON
365	Service Life	Mon	9:00 am - 11:00 am	C-106 C
369	Seismic Rehab M1	Sun	1:00 pm - 2:30 pm	H-CASSIDY
369	Seismic Rehab M2	Mon	2:00 pm - 6:00 pm	C-106 C

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
370	Dynamic & Vibratory Effects	Sun	3:00 pm - 5:00 pm	C-102 A
371	Elevated Tanks with Concrete Pedestals	Tue	10:00 am - 1:00 pm	H-CURTIS A
372	Tanks Wrapped Wire/Strand	Tue	3:00 pm - 5:00 pm	C-203
374	Seismic Design	Mon	8:15 am - 12:00 pm	C-102 B
374-TG2	Protocol For Testing RC Structural Elements	Sun	11:30 am - 1:00 pm	C-203
375	Design for Wind Loads	Mon	1:00 pm - 3:30 pm	H-CURTIS A
376	RLG Containment Structures	Mon	1:00 pm - 4:00 pm	H-CASSIDY
376-01	Steering Committee	Sun	10:30 am - 12:00 pm	H-ELLIS WEST
376-A	Code, Education & Publication Subcommittee	Mon	10:00 am - 12:00 pm	C-202
376-B	Materials Subcommittee	Sun	1:00 pm - 3:00 pm	C-103 B
376-C	Analysis Subcommittee	Sun	3:00 pm - 5:00 pm	C-103 B
376-D	Design & Construction Subcommittee	Mon	8:00 am - 10:00 am	H-ELLIS EAST
377	Performance-Based Structural Integrity & Resilience of Concrete Structures	Mon	10:00 am - 12:30 pm	C-203
408	Development and Splicing	Sun	8:30 am - 11:30 am	C-104 B
408-A	Mech Splices	Sun	8:00 am - 8:30 am	C-104 B
421	Reinf Slabs	Sun	10:00 am - 1:00 pm	C-105 C
423	Prestressed	Mon	8:30 am - 12:30 pm	C-211 B
423/445	Adhoc Grp on Shear in Prestress Conc	Sun	3:30 pm - 5:30 pm	C-206
423-D	Bond & Dev Pretnsn Membrs	Sun	4:00 pm - 5:00 pm	H-BOREIN B
423-E	Prestress Losses	Sun	3:00 pm - 5:00 pm	H-PHOENIX WEST
423-F	Sustainable Prestressed Concrete	Mon	4:00 pm - 6:00 pm	H-CASSIDY
435	Deflection	Mon	3:30 pm - 5:00 pm	H-BOREIN B
437	Strength Evaluation	Mon	10:30 am - 12:30 pm	H-CASSIDY
439	Steel Reinforcement	Mon	8:30 am - 10:00 am	C-105 A
439-A	Steel Reinf-Wire	Sun	3:30 pm - 5:00 pm	C-106 B
440	Fiber-Reinforced Polymer	Tue	8:00 am - 11:00 am	C-101 A-C

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
440-E	FRP-Prof Education	Mon	8:30 am - 10:00 am	H-CASSIDY
440-F	FRP-Repair-Strengthening	Mon	3:00 pm - 6:00 pm	H-REGENCY D
440-H	FRP-Reinforced Concrete	Mon	1:00 pm - 3:00 pm	H-REGENCY D
440-J	FRP Stay-in-Place Forms	Mon	10:00 am - 11:30 am	C-102 A
440-L	FRP-Durability	Sun	3:00 pm - 5:00 pm	H-REGENCY C
440-M	FRP-Repair of Masonry Str	Sun	8:30 am - 10:00 am	C-101 A-C
440-TG2	Repair Construction Specification	Sun	1:30 pm - 3:00 pm	C-104 B
441	Columns	Mon	11:30 am - 2:00 pm	C-102 A
441-A	High-Strength Conc	Mon	8:00 am - 9:00 am	C-203
441-B	Lateral Reinf	Mon	9:00 am - 10:00 am	C-203
441-E	Columns Multi-Spiral Reinf	Sun	11:30 am - 1:00 pm	H-BOREIN A
444	Structural Health Monitoring and Instrumentation	Tue	8:00 am - 10:00 am	H-BOREIN B
445	Shear & Torsion	Mon	2:00 pm - 6:00 pm	H-PHOENIX WEST
445-A	Shear & Torsion-Strut & Tie	Sun	10:30 am - 1:30 pm	C-106 B
445-B	Shear & Torsn-Seismic Shear	Sun	8:00 am - 10:00 am	C-203
445-C	Shear & Torsn-Punching Shear	Sun	1:00 pm - 3:00 pm	H-ELLIS EAST
445-D	Shear & Torsn-Database	Sun	3:00 pm - 5:00 pm	H-REMINGTON
445-E	Shear & Torsn-SOA Torsion	Sun	12:30 pm - 2:00 pm	C-103 A
446	Fracture Mechanics	Mon	3:30 pm - 5:00 pm	H-PHOENIX EAST
447	Finite Element Analysis M1	Mon	11:00 am - 1:30 pm	C-106 C
447	Finite Element Analysis M2	Mon	5:00 pm - 6:30 pm	H-BOARDROOM
506	Shotcreting	Tue	8:30 am - 11:30 am	H-COWBOY
506-A	Shotcreting-Evaluation	Mon	1:30 pm - 3:00 pm	H-BOARDROOM
506-B	Shotcreting-Fiber-Reinforced	Sun	1:30 pm - 2:30 pm	H-PHOENIX EAST
506-C	Shotcreting-Guide	Mon	8:30 am - 10:30 am	H-RUSSELL
506-E	Shotcreting-Specifications	Mon	10:30 am - 12:30 pm	H-RUSSELL

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
506-F	Shotcreting-Underground	Mon	4:30 pm - 5:30 pm	C-103 B
506-G	Qualifications for Projects	Mon	3:00 pm - 4:30 pm	H-BOARDROOM
515	Protective Systems	Tue	9:00 am - 11:00 am	H-BOREIN A
522	Pervious Concrete	Tue	8:00 am - 11:00 am	C-105 B
523	Cellular Concrete	Tue	8:30 am - 10:30 am	H-318
524	Plastering	Mon	8:30 am - 10:00 am	C-106 B
526	Autoclaved Aerated Concrete	Tue	10:30 am - 1:00 pm	H-318
533	Precast Panels	Sun	1:00 pm - 2:30 pm	C-102 C
543	Piles	Mon	8:30 am - 11:30 am	H-BOREIN A
544	Fiber-Reinforced Concrete	Tue	3:00 pm - 5:30 pm	C-211 B
544-A	FRC-Production & Applications	Mon	11:30 am - 1:00 pm	C-103 A
544-B	FRC-Education	Tue	8:30 am - 10:00 am	C-211 B
544-C	FRC-Testing	Tue	1:30 pm - 3:00 pm	C-211 B
544-D	FRC-Structural Uses	Mon	3:30 pm - 6:00 pm	C-105 A
544-E	FRC-Mechanical Properties	Mon	5:00 pm - 6:30 pm	H-ELLIS WEST
544-F	FRC-Durability	Tue	10:30 am - 12:00 pm	C-211 B
544-SC	FRC-Steering Committee	Mon	8:30 am - 10:00 am	C-103 B
546	Repair	Mon	8:30 am - 11:30 am	H-REGENCY D
546-C	Repair-Guide	Sun	11:00 am - 12:00 pm	H-REMINGTON
548	Polymers	Tue	8:30 am - 11:30 am	C-106 B
548-A	Polymers-Overlays	Mon	8:15 am - 11:00 am	H-PHOENIX EAST
548-B	Polymers-Adhesives	Mon	2:30 pm - 4:30 pm	C-103 B
548-C	Structural Polymer Design	Mon	11:00 am - 12:30 pm	H-PHOENIX EAST
549	Thin Reinforced	Sun	10:00 am - 1:00 pm	C-105 B
550	Precast Structures	Sun	3:00 pm - 5:00 pm	C-104 B
551	Tilt-Up	Sun	9:00 am - 12:00 pm	H-RUSSELL

Numerical Committee Meeting List

All program changes will be available at the ACI Registration Desk located in C-301 A&B

C = Phoenix Convention Center

H = HYATT REGENCY PHOENIX

Code	Committee	Day	Time	Room Name
552	Cementitious Grouting	Wed	8:00 am - 9:30 am	H-BOREIN A
555	Recycled	Mon	5:00 pm - 6:30 pm	C-106 B
560	Design & Constr ICFs	Tue	8:30 am - 10:30 am	H-PHOENIX WEST
562	Eval, Repair & Rehab	Sun	1:00 pm - 5:00 pm	H-REGENCY B
562-A	General	Sat	1:00 pm - 4:00 pm	H-RUSSELL B
562-B	Loads	Sun	8:00 am - 10:00 am	H-CASSIDY
562-C	Evaluation M1	Sat	4:00 pm - 5:00 pm	H-REMINGTON C
562-C	Evaluation M2	Sat	6:00 pm - 8:00 pm	H-REMINGTON C
562-D	Design M1	Sat	10:00 am - 12:00 pm	H-REMINGTON C
562-D	Design M2	Sat	1:00 pm - 2:00 pm	H-REMINGTON C
562-E	Education	Mon	12:30 pm - 2:00 pm	H-ELLIS WEST
562-F	Durability	Sat	6:00 pm - 9:00 pm	H-CURTIS A
563	Specs for Repair of Struct Conc in Bldgs M1	Sat	3:00 pm - 5:00 pm	H-CURTIS A
563	Specs for Repair of Struct Conc in Bldgs M2	Tue	1:00 pm - 5:00 pm	H-318
564-FM	Evaluation, Repair & Rehabilitation of Nuclear Concrete Structures	Mon	2:00 pm - 3:30 pm	C-106 A

View the Program Book on Your Smartphone or Tablet!



Download the Convention App
and ePub!

Event Details

All program changes will be available at the ACI Registration Desk located in **C-301 A&B**

✓ = Separate fee required

* = Guest-only event

TG = Task Group

C = Phoenix Convention Center

H = Hyatt Regency Phoenix

Saturday, October 19, 2013

1:00 pm - 5:00 pm

Concrete Sustainability Forum VI—H-ELLIS EAST & WEST

Sponsored by ISO/TC 71/SC 8, Environmental Management for Concrete and Concrete Structures; and ACI Committee 130, Sustainability of Concrete

Co-Moderators:

Koji Sakai

Professor

Kagawa University

Takamatsu, Japan

Julie K. Buffenbarger

Construction Specialist

Lafarge

Medina, OH

ACI's sixth annual Concrete Sustainability Forum will include presentations from industry experts on concrete materials and structures, representatives of international concrete organizations, and concrete- and construction-related ISO experts, and will be followed by a panel discussion that will challenge speakers and attendees to identify sustainability opportunities.

By attending this session, attendees will be able to:

1. Understand the impact of infrastructure and building construction on climate change and resource depletion;
2. Understand opportunities to extend the service life of concrete structures, use eco-efficient materials, and incorporate ultra-high-performance concrete;
3. Identify innovations that may potentially transform the concrete industry and construction community through low-carbon and negative-carbon concrete; and
4. Understand how standards and guides from leading standards-developing organizations across the globe are providing engineers, researchers, and designers with resources to effectively incorporate concrete into green and sustainable projects.

Introduction—1:00 pm

Koji Sakai, Professor, Kagawa University, Takamatsu, Japan; and **Julie Buffenbarger**, Lafarge

A New Approach for Development of Low-Carbon High-Performance Concrete—1:10 pm

Koji Sakai, Chair of JCI Sustainability Committee and ISO/TC 71/SC 8, Professor, Kagawa University, Takamatsu, Japan

Development of a New Ecological Concrete with CO₂ Emissions below Zero—1:35 pm

Takayuki Higuchi, Group Leader, Cement and Special Cement Additives Research Laboratory, DENKA, Tokyo, Japan

A Path towards More Sustainable Cement Manufacturing—2:00 pm

Laurent Barcelo, Manager of Strategic Projects and Scientific Network, Lafarge Canada, Pointe-Claire, QC, Canada

Sustainable Concrete Structures through Service Life Design and Eco-Efficient Concrete—2:25 pm

Harald S. Müller, *fib* Vice President, Professor, Karlsruhe Institute of Technology, Karlsruhe, Germany

Break—2:50 pm

ISO Standardization on Environmental Issues for Concrete Sector—3:05 pm

Takafumi Noguchi, ISO/TC 71/SC 8 Secretary, Associate Professor, The University of Tokyo, Tokyo, Japan

What Are PCRs and EPDs?—3:30 pm

Julie Buffenbarger, Chair of ACI Committee 130, Construction Specialist, Lafarge, Medina, OH

Recent Advances in Standardization on Sustainability in Korea—3:55 pm

Dong-Uk Choi, Chair of KCI Green Committee for Concrete, Professor, Hankyong National University, Ansong-City, South Korea

Panel Discussions—4:20 pm

Koji Sakai, Professor, Kagawa University, Takamatsu, Japan; and **Julie Buffenbarger**, Lafarge



4 AIA/CE LU



4 GBCI CE hours

Sunday, October 20, 2013

***Guest Hospitality—H-Sundance**

7:00 am – 10:00 am

A continental breakfast will be available at the Hyatt Regency to registered guests each morning (Sunday-Wednesday). Use the ticket behind your name badge to gain entry to the Guest Hospitality. You must be a registered guest to attend.

***Guest Overview—H-Sundance**

8:00 am – 9:00 am

Acquaint yourself with the week ahead, and get a preview of the guest program for the ACI Spring 2014 Convention in Reno, NV, and the ACI Fall 2014 Convention in Washington, DC.

***Guest Lounge—H-Sundance**

10:00 am – 5:00 pm

Stop by the Guest Lounge to relax and meet other ACI guests. Guests can enjoy the Guest Lounge Sunday-Wednesday.

Sunday, October 20, 2013

8:00 am - 9:00 am

Convention Orientation Breakfast—H-REGENCY A

Sponsored by the ACI Convention Committee

Speaker: William J. Lyons III
National Business Development Manager – Northeast Region
The Euclid Chemical Company
New Windsor, NY

First-time convention attendees are invited to join William J. Lyons III, Chair of the ACI Convention Committee, for a continental breakfast and brief session to orient you to the week ahead. Attendees will have the opportunity to meet other convention attendees and learn about what an ACI convention has to offer.

To learn more about committee meetings, attend *Roadmap to Committee Participation* on Sunday, October 20, at 10:00 am.

Sunday, October 20, 2013

10:00 am - 10:30 am

Roadmap to Committee Participation—C-301 A&B

Sponsored by the ACI Student and Young Professional Activities Committee

<i>Speakers:</i>	Sheila M. Shideh	Matthew P. Adams
	Project Engineer	Graduate Research Assistant
	Baker Concrete Construction	Oregon State University
	Ft. Lauderdale, FL	Corvallis, OR

This presentation is designed to introduce students and young professionals to ACI committee structures, procedures, and etiquette. The short discussion provided will teach attendees how to navigate the ACI committee structure, what to expect when attending committee meetings, and how to participate in committee meetings.

For a full overview of the convention, please attend the *Convention Orientation Breakfast* on Sunday, October 20, at 8:00 am.

Sunday, October 20, 2013

10:00 am - 11:30 am

ACI International Forum—C-211 A

Chaired by ACI Vice President William E. Rushing

The ACI International Forum (IF) is an opportunity for convention attendees to meet International Partner representatives. These Partners are some of the world's foremost concrete-related organizations, and this forum provides an opportunity to learn about other international organizations and their activities, upcoming publications and events, and how ACI is working with its International Partners in the common pursuit of advancing concrete knowledge. Previously known as the International Partners & Publications subcommittee of the International Advisory Committee, the IF is a revised meeting format that will provide information sharing and networking among ACI members, Chapter Representatives, ACI leaders, and ACI International Partners. All interested convention attendees are welcome!

Sunday, October 20, 2013

10:30 am - 4:30 pm

ACI Student Pervious Concrete Cylinder Competition—C-301 A&B

Sponsored by ACI Committee S801, Student Activities

Moderator: Walter H. Flood IV
Manager – Engineer
Flood Testing Labs, Inc.
Chicago, IL

The students will cast two cylinders of pervious concrete that will be put to the ultimate test with their peers. Cylinders will be tested for infiltration, followed by splitting tensile strength, while eager competitors observe. To triumph over the stiff competition, students will learn about the properties of pervious concretes and balance the cost, permeability, and strength of the materials to create ideal specimens. Hopefully their thoughts will hold some water, although their concrete will not!

Sunday, October 20, 2013

10:30 am - 4:30 pm

Art of Concrete Student Competition—C-301 A&B

Sponsored by the ACI Arizona Chapter

The Art of Concrete Student Competition, sponsored by the ACI Arizona Chapter, is an opportunity to explore the artistic nature of concrete and display its many varieties of form, function, and beauty through a work of art. This competition is open to individual undergraduate or graduate students or those students on cooperative or internship assignments. Entries will be displayed in the exhibit area beginning at 10:00 am on Sunday. Convention attendees will have the opportunity to view the artwork and vote for their favorite piece. Voting will be open from 10:00 am on Sunday, October 20, through 10:00 am on Monday, October 21. The winners will be announced during the Student Lunch on Monday, October 21, and the top three entries will receive prizes.

Sunday, October 20, 2013

11:00 am - 4:00 pm

**✓ *Southwest Story Tour—H-Depart north lobby doors on Monroe Street*
\$85.00 U.S. per person**

Travel to the Desert Botanical Garden for a self-guided tour of beautiful desert blooms and native plants. Trail maps will be provided for all participants, and it is recommended that you wear comfortable shoes, as the paths are not paved. Hats, sunscreen, and sunglasses are also strongly encouraged. A gourmet sack lunch will be provided at the Garden before departing for the Heard Museum. This Museum offers self-guided tours through various exhibits that will educate you about the arts, heritage, and daily life of the indigenous people of the Americas. *Tour tickets may be purchased up to 24 hours prior to the event, based on availability. Tours are nonrefundable. All tours depart from the north lobby doors of the Hyatt Regency on Monroe Street.*

✓ = Separate fee required

✓ **International Lunch—H-REGENCY A**

\$30.00 U.S. per person

Sponsored by the ACI International Advisory Committee

Speaker: Jorge Luis Quijano
 Chief Executive Officer
 Panama Canal Authority, Panama



Topic: The Panama Canal Expansion Program: A Story of Challenges, Innovation, and Commitment

Join other ACI attendees for the International Lunch, with speaker Jorge Luis Quijano, CEO of the Panama Canal Authority. The Panama Canal Expansion Program is the most comprehensive civil engineering project executed in Panama in the last century. At an investment of \$5.25 billion, the major components of this program include the construction of two sets of locks (one on the Pacific entrance and the other on the Caribbean Sea); the widening and deepening of the existing channels in Gatun Lake; the deepening of Culebra Cut; and four dry excavation projects to open a new 6.1 km-long access channel to connect the Pacific locks and the Culebra Cut. The Expansion Program registers 64.6% overall progress as of August 2013.

PREREGISTRATION IS REQUIRED TO ATTEND. Tickets may be purchased at the ACI Registration Desk up to 24 hours prior to the event, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.

✓ = Separate fee required

Advancements in Concrete Pavements—C-212 B

Sponsored by ACI Committee 325, Concrete Pavements

Co-Moderators: Kurt D. Smith David W. Pittman
 Program Director Director, Geotechnical and Structural Lab
 Applied Pavement Technology, Inc. U.S. Army Corps of Engineers
 Urbana, IL Clinton, MS

Significant advancements are being made in all areas of concrete pavement technology. This session highlights some of those recent advancements in the areas of materials, construction, and rehabilitation.

By attending this session, attendees will be able to:

1. Describe some of the recent advancements in cement binders;
2. List new concrete paving technologies, including two-lift paving and precast slabs;
3. Recognize the application of thin concrete overlays; and
4. Understand key considerations of concrete pavement surface characteristics.

Advances in Cementitious Binders for Concrete Paving—1:00 pm

Thomas J. Van Dam, Principal, Nichols Consulting Engineers, Reno, NV

Sustainable Two-Lift Jointed Plain Composite Concrete Pavement Using Ternary Mixes and Recycled Aggregate: The Illinois Tollway Direction—1:25 pm

Dan Gancarz, Engineer, Illinois Tollway, Downers Grove, IL

Design and Performance of Concrete Slabs with Optimized Geometry—1:50 pm

Jeffery R. Roesler, Professor, University of Illinois, Urbana, IL; and Juan Pablo Covarrubias, TCPavements, Ltda.

Advances in Precast Jointed and Post-Tensioned Concrete Pavements—2:15 pm

Shiraz D. Tayabji, Senior Principal Engineer, Applied Research Associates, Inc., Elkridge, MD

Surface Characteristics for the 21st Century: Where Have We Been and Where Are We Going?—2:40 pm

Larry Scofield, Professional Engineer, IGGA/ACPA, Mesa, AZ



2 AIA/CE LU

Sunday, October 20, 2013

1:00 pm - 3:00 pm

Conservation of Historic Concrete, Part 1 of 2—C-211 A

Sponsored by ACI Committee 364, Rehabilitation

Co-Moderators:

David A. VanOcker
Principal/President
CVM
King of Prussia, PA

Paul E. Gaudette
Principal
Wiss, Janney, Elstner Associates, Inc.
Chicago, IL

Conservation of concrete has become more important as some of the world's most significant concrete structures continue to age and deteriorate. This session will discuss innovations in conservation of historic concrete and will review approaches, repair options, and techniques for repair of historic concrete structures, some dating back to the late 1800s.

By attending this session, attendees will be able to:

1. Recognize key elements and characteristics that define historic concrete structures;
2. Explain unique inventions and patents developed over the years for historic concrete construction that form the basis for systems used in modern construction;
3. Demonstrate an understanding of historic concrete mixtures, formwork, and reinforcing bar systems for architecturally exposed historic concrete; and
4. Specify methodologies to assess and repair historic concrete structures with appropriate sensitivity to ensure their long-term serviceability.

Rainbow Bridge Renovation—1:00 pm

David W. Whitmore, Vice President, Vector Corrosion Technologies Ltd., Winnipeg, MB, Canada

Renovation of Historic Stadium Structures—1:30 pm

Matthew R. Sherman, Senior Staff Engineer, Simpson Gumpertz & Heger, Inc., Melrose, MA

Restoration of the Edison Memorial Tower—2:00 pm

Paul E. Gaudette, Principal, Wiss, Janney, Elstner Associates, Inc., Chicago, IL

Renovation of Dodger Stadium—2:30 pm

Chuck Dunscombe, Principal, Contech Services, Santa Ana, CA

Sunday, October 20, 2013**1:00 pm - 3:00 pm*****Fiber-Reinforced Concrete for Sustainable Structures, Part 1 of 2—C-207***

Sponsored by ACI Committees 130, Sustainability of Concrete; 544, Fiber-Reinforced Concrete; and 549, Thin Reinforced Cementitious Products and Ferrocement, and Subcommittee 544-F, FRC-Durability.

Co-Moderators: Corina-Maria Aldea Senior Associate Materials Engineer AMEC Hamilton, ON, Canada
Mahmut Ekenel Civil Engineer ICC-ES Whittier, CA

In recent years, human sustainability has been increasingly associated with the integration of economic, social, and environmental spheres. The cement-based materials industry is committed to minimizing any negative impact it may contribute to the natural environment. This session brings together experts from around the world to discuss some of the sustainability aspects of using fibers in fiber-reinforced concrete (FRC) structures, including the role of fiber reinforcement in enhancing durability, optimized structure size, reduced weight, reduced footing dimensions, and recyclability. The purpose of the session is to learn from real-life situations and to lay the foundation for life-cycle engineering analysis with fiber-reinforced concrete, while gaining insight into the state of the art of the topic in academia, the industry, and real-life applications.

By attending this session, attendees will be able to:

1. Name some of the sustainability aspects of using fibers in FRC structures;
2. Understand the advantages of using fibers in FRC structures in terms of long-term performance, optimized structure size, reduced weight, reduced footing dimensions, and recyclability;
3. Recognize the advantages of using fibers for applications that include various elements; and
4. Identify opportunities to promote and expand the use of FRC to support sustainable development.

Fire Performance of High-Strength Concrete Columns with Different Types of Fiber-Reinforcement—1:00 pm

Venkatesh Kumar R. Kodur, Professor, Michigan State University, East Lansing, MI; and Wasim Khaliq, NUST Institute of Civil Engineering

On the Durability and Interface Mechanisms of Natural Fiber-Reinforced Concrete: A Material for the Sustainable Construction Industry—1:20 pm

Flavio de Andrade Silva, Assistant Professor, Federal University of Rio de Janeiro, COPPE-UFRJ, Rio de Janeiro, Brazil; and Saulo Rocha Ferreira and Romildo Dias Toledo Fiho, Federal University of Rio de Janeiro

Carbon Fiber-Reinforced Self-Consolidating Concrete—Fresh and Hardened Properties—1:40 pm

Mohamed Yakhlaf, Lecture Teacher, Al-Jabal Al Gharbi University, Gharyan, Libya; and Khaled A. Soudki and Md Safiuddin, University of Waterloo

Fiber-Reinforced Self-Consolidating Concrete in Precast Construction: A Sustainability Perspective—2:00 pm

Liberato Ferrara, Assistant Professor, Politecnico di Milano, Milano, Italy

Evaluating the Eco-Mechanical Performances of Fiber-Reinforced Concrete—2:20 pm

Alessandro P. Fantilli, Assistant Professor, Politecnico di Torino, Torino, Italy; and Bernardino Chiaia, Politecnico di Torino

Parametric Study of Fiber-Reinforced Concrete for Bridge Link Slab Applications—2:40 pm

Carolyn M. Hansson, Professor, University of Waterloo, Waterloo, ON, Canada; and James F. Cameron, Tony Hong, Jeffrey S. West, and Ralph Haas, University of Waterloo



2 AIA/CE LU



2 GBCI CE hours

Sunday, October 20, 2013

1:00 pm - 3:00 pm

Structural Concrete Design—The Legacy of Dr. W. Gene Corley, Part 1 of 2—C-212 A

Sponsored by ACI Committee 318, Structural Concrete Building Code

Moderator: Anthony E. Fiorato
Consultant
Fish Creek, WI

Dr. W. Gene Corley, a long-time member of ACI, passed away March 1, 2013. He was a former Chair of ACI 318 and a member of the Committee for over 40 years. This session will provide a retrospective on his contributions to research, forensic engineering, the structural engineering profession, and the ACI 318 Structural Concrete Building Code.

By attending this session, attendees will be able to:

1. Explain the basis for the equivalent frame method for the design of flat-plate and flat-slab frame systems;
2. Explain how limit design methods are impacted by assumptions made for the inelastic rotational capacity of hinging regions in reinforced concrete members;
3. Recognize the effects of reinforcement details on the behavior of reinforced concrete structural walls; and
4. Recognize the process for forensic investigation and evaluation of a major structural disaster.

Analysis of Flat-Plate and Frame Construction—1:00 pm

Neil M. Hawkins, Professor Emeritus, Civil and Environmental Engineering, University of Illinois, Clyde Hill, WA

Rotational Capacity of Reinforced Concrete Beams—1:30 pm

James O. Jirsa, Professor, Ferguson Structural Engineering Laboratory, University of Texas at Austin, Austin, TX

Behavior and Design of Earthquake-Resistant Structural Walls—2:00 pm

Jack P. Moehle, TY and Margaret Lin Professor of Engineering, University of California, Berkeley, Berkeley, CA

The Oklahoma City Bombing—2:30 pm

Paul F. Mlakar, Senior Research Scientist, U.S. Army Engineer Research and Development Center, Vicksburg, MS



2 AIA/CE LU

Sunday, October 20, 2013

3:00 pm - 5:00 pm

Beer Garden—C-301 A&B

Sponsored by **SPEEDIE AND ASSOCIATES**
Providing quality consulting engineering services since 1980.

Speedie and Associates is sponsoring a Beer Garden in the Exhibit Hall for convention attendees to enjoy refreshments at the end of the day. Take this opportunity to meet representatives from Speedie and Associates and network with other attendees and exhibitors.

Sunday, October 20, 2013

3:30 pm - 5:30 pm

Conservation of Historic Concrete, Part 2 of 2—C-211 A

Sponsored by ACI Committee 364, Rehabilitation

<i>Co-Moderators:</i>	Paul E. Gaudette Principal Wiss, Janney, Elstner Associates, Inc. Chicago, IL	David A. VanOcker Principal/President CVM King of Prussia, PA
-----------------------	--	--

The session description and learning objectives for this session may be found in the Part 1 listing; see page 86.

Conservation of Concrete—3:30 pm

Deborah Slaton, Principal, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL

Development of Architectural Precast Concrete by John J. Earley—4:00 pm

Sidney Freedman, Director, Architectural Precast Services, PCI, Chicago, IL

History of Reinforcing Bar Systems—4:30 pm

Donald F. Meinheit, Affiliated Consultant, Wiss, Janney, Elstner Associates, Inc., Chicago, IL

Creating a New Vietnam War Memorial Matching Earley Studio's Mosaic Concrete—5:00 pm

Robert F. Armbruster, President, The Armbruster Company, Inc., Northbrook, IL



2 AIA/CE LU

Sunday, October 20, 2013

3:30 pm - 5:30 pm

Emerging Technologies in Civil Infrastructure Application—C-212 B

Sponsored by the ACI Foundation's Strategic Development Council (SDC)

Co-Moderators: David B. Stokes
Consultant
Durable Concrete LLC
Shelby, NC

Charles S. Hanskat
Managing Principal
Hanskat Consulting Group, LLC
Northbrook, IL

The goal of the ACI Foundation's Strategic Development Council (SDC) is to collaborate industry-wide to address the concrete industry's technology challenges and to create a forum for the introduction and nurturing of new technologies. This session highlights some of the current emerging industry technologies identified by SDC. This session will present overviews of newer technologies currently or soon to be impacting the concrete industry. They are in various stages of development with various levels of implementation. The presentations are by individuals who are both well-versed in these technologies and directly involved in their implementation and further development.

By attending this session, attendees will be able to:

1. Recognize current emerging technologies in civil infrastructures;
2. Identify the levels of development and implementation for each emerging technology;
3. Evaluate how these emerging technologies impact their business; and
4. Discover sources for securing additional details on these emerging technologies.

Bureau of Reclamation Corrosion Mitigation Research—3:30 pm

Kurt F. von Fay, Civil Engineer, U.S. Bureau of Reclamation, Denver, CO

Using NASA Life Support Technology to Reduce Cement Industry CO₂ Emissions—4:00 pm

James E. Alleman, Professor, Iowa State University, Ames, IA; and **Morgan Abney**, NASA Marshall Space Flight Center

Improving Rheology and Workability of Concrete with Acti-Gel 208—4:30 pm

Steven B. Feldman, Director, Research & Development, Active Minerals International, LLC, Hunt Valley, MD

Predicting ASR and Treatment—5:00 pm

Anol Kanti Mukhopadhyay, Research Scientist, Texas A&M Transportation Institute, College Station, TX



2 AIA/CE LU

Sunday, October 20, 2013

3:30 pm - 5:30 pm

Fiber-Reinforced Concrete for Sustainable Structures, Part 2 of 2—C-207

Sponsored by ACI Committees 130, Sustainability of Concrete; 544, Fiber-Reinforced Concrete; and 549, Thin Reinforced Cementitious Products and Ferrocement, and Subcommittee 544-F, FRC-Durability.

Co-Moderators: Corina-Maria Aldea
Senior Associate Materials Engineer
AMEC
Hamilton, ON, Canada

Mahmut Ekenel
Civil Engineer
ICC-ES
Whittier, CA

The session description and learning objectives for this session may be found in the Part 1 listing; see page 87.

Fiber-Reinforced Concrete Design Guide Based on Sustainability and Serviceability—3:30 pm

Barzin Mobasher, Professor, Arizona State University, Tempe, AZ

Calendar Extrusion of Fiber-Reinforced Cement Mixtures for Sustainable Composite Production—3:50 pm

Bekir Yilmaz Pekmezci, Assistant Professor, Istanbul Technical University, Istanbul, Turkey

Sustainable Textile Reinforced Concrete (TRC) Systems—4:10 pm

Alva Peled, Associate Professor, Ben-Gurion University of the Negev, Beer-Sheva, Israel; and Dimity Dvorkin and Zvi Cohen, Ben-Gurion University of the Negev

Analysis and Design Procedures for Modeling the Long-Term Durability of Textile-Reinforced Concrete—4:30 pm

Barzin Mobasher, Professor, Arizona State University, Tempe, AZ; and Vikram Dey, Arizona State University

In-Plane Behavior of Unreinforced Masonry Walls Strengthened with Fabric-Reinforced Cementitious Matrix (FRCM)—4:50 pm

Saman Babaeidarabad, Graduate Student, University of Miami, Coral Gables, FL; and Antonio Nanni and Francisco De Caso y Basalo, University of Miami

Performance of Unreinforced Masonry Walls Strengthened with FRCM Subject to Out-of-Plane Loads—5:10 pm

Saman Babaeidarabad, Graduate Student, University of Miami, Coral Gables, FL; and Antonio Nanni and Francisco De Caso y Basalo, University of Miami



2 AIA/CE LU



2 GBCI CE hours

Sunday, October 20, 2013

3:30 pm - 5:30 pm

Structural Concrete Design—The Legacy of Dr. W. Gene Corley, Part 2 of 2—C-212 A

Sponsored by ACI Committee 318, Structural Concrete Building Code

Moderator: Basile G. Rabbat
Engineering Consultant
Mt. Prospect, IL

By attending this session, attendees will be able to:

1. Recognize the background and regulations for licensure of structural engineers in U.S. practice;
2. Recognize the fundamental basis for development and implementation of building codes in U.S. practice;
3. Explain the upcoming changes and reorganization of the ACI 318 Building Code; and
4. Recognize the contributions of Dr. W. Gene Corley to our understanding of behavior and design of concrete structures.

Separate Licensing of Structural Engineers—3:30 pm

James R. Cagley, Principal, Cagley & Associates, Consulting Structural Engineers, Rockville, MD

Protecting the Public from Fools and Rascals—4:00 pm

Anthony E. Fiorato, Consultant, Fish Creek, WI

Contributions to the ACI 318 Structural Concrete Building Code—4:30 pm

Randall W. Poston, Principal, Whitlock Dalrymple Poston & Associates, P.C., Austin, TX

Remembering Dr. W. Gene Corley—5:00 pm

Mete A. Sozen, Kettlehut Distinguished Professor, Purdue University, West Lafayette, IN



2 AIA/CE LU

Sunday, October 20, 2013

5:45 pm - 7:00 pm

Opening Session and Katharine and Bryant Mather Lecture Series—C-301 D

Speaker: H. Celik Ozyildirim
Principal Research Scientist
Virginia Transportation Research Council
Charlottesville, VA



Topic: Katharine and Bryant Mather: Pioneers and Visionaries

The ACI Fall 2013 Convention officially begins during the Opening Session and Katharine and Bryant Mather Lecture Series. H. Celik Ozyildirim will give a special presentation. He will touch on the interests and contributions of the Mathers to the industry, as well as the Virginia Department of Transportation (VDOT) applications that were adopted following their teachings. Bryant and Katharine Mather devoted a remarkable 98 combined years as members of the American Concrete Institute. They were also very active in numerous other industry-related organizations and associations. Their individual and joint efforts ranged from both working for the U.S. Army Corps of Engineers for over 40 years to serving on presidential committees at the White House.

Additionally, at the Opening Session, several individuals and groups will be recognized for their contributions to the concrete industry, including the winner of the Young Professional Essay Contest. The six award categories to be presented will be the Commemorative Lecture Series, the ACI Distinguished Achievement Award, the Arthur J. Boase Award, the Robert E. Philleo Award, the J.C.Roumain Innovation in Concrete Award, and the Concrete Sustainability Award.

Sunday, October 20, 2013

7:00 pm - 8:00 pm

Opening Reception—C-301 A&B

Sponsored by the ACI Arizona Chapter

Make your way through the exhibit area after the Opening Session. Reunite with colleagues,

network with new acquaintances, and learn about the products and services offered by the exhibitors. A cash bar and light refreshments will be available.
A photographer will be available to take complimentary professional headshots for attendees.



Look for the ACI Social Team at the ACI TweetUp. Attendees are encouraged to network with fellow Tweeters and learn more about ACI's social media efforts.

Sunday, October 20, 2013

8:00 pm - 10:00 pm

Hot Topic Session: High-Strength Reinforcing Bars—Balancing Design Requirements with Achievable Material Properties — H-REGENCY C

Sponsored by the Hot Topics Committee; the Concrete Reinforcing Steel Institute (CRSI); and the Charles Pankow Foundation (CPF)

Moderator: Michael C. Mota
Vice President of Engineering
Concrete Reinforcing Steel Institute
Williamstown, NJ

The goal of the session is to offer an overview on the state of practice of high-strength steel reinforcement (80,000 psi and above) in concrete while considering such factors as ACI 318 code limitations, metallurgy, availability, and fabrication. Future research needs will also be highlighted. A short panel discussion will be conducted at the end of the session.

By attending this session, attendees will be able to:

1. Recognize the current state of practice for high-strength steel reinforcement;
2. Understand the current ACI 318 limitations for high-strength steel reinforcement;
3. Understand metallurgy and fabrication of high-strength steel reinforcement; and
4. Identify the future research needs for high-strength steel reinforcement.

Welcome and Opening Remarks—8:00 pm

Ronald Klemencic, President, Magnusson Klemencic Associates, Seattle, WA

Brief Historical Overview of Yield Strength in ACI 318—8:15 pm

Conrad Paulson, Consultant, Wiss, Janney, Elstner Associates, Inc., Pasadena, CA

Reinforcing Bar Metallurgy - 101—8:30 pm

Jacob Selzer, Chief Metallurgist, CMC Steel Arizona, Mesa, AZ

Mill Issues Related to Making High-Strength Reinforcement—8:45 pm

Erik Nissen, Plant Metallurgist, Nucor Steel Seattle Inc, Seattle, WA

Highlights of ATC-98/Task Order 25 Project (Use of High-Strength Reinforcement in Reinforced Concrete Seismic Design)—9:05 pm

Dominic J. Kelly, Staff Consultant, Simpson Gumpertz & Heger, Belmont, MA

High-Strength Reinforcement: Where Does it Make Sense?—9:20 pm

David C. Fields, Magnusson Klemencic Associates, Seattle, WA; and **Laura N. Lowes**, University of Washington

Panel Discussion—9:40 pm

Michael C. Mota, Vice President of Engineering, Concrete Reinforcing Steel Institute, Williamstown, NJ



2 AIA/CE LU

Sunday, October 20, 2013

9:00 pm - 10:30 pm

Student and Young Professional Networking Event—H-NETWORKS BAR & GRILL

Sponsored by the ACI Collegiate Concrete Council and the ACI Student and Young Professional Activities Committee

The ACI Collegiate Concrete Council and ACI Student and Young Professional Activities Committee invite all convention attendees to the Student and Young Professional Networking Event. Meet fellow students and young professionals while networking with ACI members in a fun and casual environment. Attendees to the event will be entered into a drawing for door prizes. In addition, attendees will be able to purchase food and beverages.

Monday, October 21, 2013

6:30 am - 8:00 am

Workshop for Technical Committee Chairs—C-301 C

Sponsored by the ACI Technical Activities Committee (TAC)

Moderator: David A. Lange
Professor
University of Illinois
Urbana, IL

ACI technical committee Chairs are expected to attend this breakfast workshop to meet with fellow Chairs, TAC members, and ACI staff to hear updates on important recent developments of interest to ACI technical committee Chairs. There will be table discussions and short presentations. If you are unable to attend, please ask the Secretary of your committee or another committee member to represent you in your absence. **Attendance is by invitation only.**

Monday, October 21, 2013

7:00 am - 8:30 am

Speaker Development Breakfast—H-REGENCY D

Sponsored by ACI Committees S802, Teaching Methods and Educational Materials

Moderator: Colonel Fred Meyer
Deputy Head, Department of Civil and Mechanical Engineering
United States Military Academy
West Point, NY

Speaker: Chris Carroll
Assistant Professor
University of Louisiana at Lafayette
Lafayette, LA

Topic: Using i>clickers for Interactive Presentation of Material in a Classroom and Professional Setting

This session provides an informal venue for attendees to learn how to become better presenters. The breakfast format promotes interaction among attendees and with the presenter, who models the skills he is teaching in the presentation.

The methods a speaker uses to present material can literally make or break the presentation, whether it is a salesman with a new product or a professor and a new topic. A well-planned visual, engaging presentation can keep the attention of the audience, allowing for adequate coverage and retention of the topic. On the contrary, an ill-prepared verbal presentation with little interaction can result in daydreaming, restlessness, and even a desire to leave on the part of the audience. A variety of options are available for presenters to spice up their presentations, while still keeping it professional. i>clickers are one option among the vast variety with the capabilities to spice up a presentation. i>clickers allow the presenter to engage the audience through multiple-choice and numerical questions. The presenter can obtain valuable data from the audience, whether it is product needs or comprehension of course content. This presentation will provide insight on the use of i>clickers to create an interactive and engaging presentation while still maintaining a professional atmosphere.

Monday, October 21, 2013

8:30 am - 10:30 am

Concrete with Recycled Materials, Part 1 of 3—C-212 B

Sponsored by ACI Committee 555, Concrete with Recycled Materials

Moderator: Ahmed Ibrahim
Assistant Professor
Saint Louis University
Saint Louis, MO

This session provides an avenue for attendees to learn more about innovative sustainable approaches in the field of recycled concrete. Concrete recycling is an increasingly common method of using different waste materials. Concrete was once routinely trucked to landfills for disposal, but recycling has a number of benefits that have made it a more attractive option in this age of greater environmental awareness, more environmental laws, and the desire to keep construction costs down.

By attending this session, attendees will be able to:

1. Demonstrate how to design concrete mixtures with various recycled materials;
2. Recognize many different types of evaluation that could be performed on new concrete mixtures;
3. Explain the various methods to assess and test the concrete produced by new recycled materials; and
4. Specify emerging technologies in the concrete produced by recycled materials and its application in civil infrastructures.

High-Strength Concrete Obtained Using Recycled Aggregate Concrete—8:30 am

Mohamed A. Mahgoub, Assistant Professor, New Jersey Institute of Technology, Newark, NJ

Proportioning and Performance Evaluation for Concrete with Recycled Glass Fine Aggregates—9:00 am

Jared R. Wright, Student, Penn State University, State College, PA; and Farshad Rajabipour and Christopher P. Cartwright, Penn State University

Time-Dependent Service-Load Deflection Behavior of Reinforced Concrete Beams with Recycled Concrete Aggregates — 9:30 am

Adam Knaack, Student, University of Notre Dame, South Bend, IN; and Yahya C. Kurama, University of Notre Dame

Sustainable Concrete through the Reuse of Crushed Returned Concrete—10:00 am

Karthik H. Obla, Managing Director of Research and Materials Engineering, NRMCA, Silver Spring, MD



2 AIA/CE LU



2 GBCI CE hours

Monday, October 21, 2013

8:30 am - 10:30 am

Electrical Methods to Characterize and Monitor Concrete, Part 1 of 2—C-213 A

Sponsored by ACI Committees 222, Corrosion of Metals in Concrete; 228, Nondestructive Testing of Concrete; and 444, Structural Health Monitoring and Instrumentation

Co-Moderators: John S. Popovics Associate Professor University of Illinois Urbana, IL
Mohammad Pour-Ghaz Assistant Professor North Carolina State University Raleigh, NC

Electrical methods such as surface resistivity, bulk resistivity, and electro-impedance spectroscopy are becoming more prominent to monitor concrete condition in laboratory and field applications, as illustrated through increased interest from infrastructure management agencies and the commercial availability of testing equipment sets. This session will present recent advances of such technology with potential application to nondestructive testing (NDT) and in-place structural monitoring for concrete.

By attending this session, attendees will be able to:

1. Understand how electrical methods can be used to monitor the condition of reinforced concrete in laboratory and in the field;
2. Understand the role of electrical methods in performance-based standards and codes;
3. Learn about ongoing research and future developments in condition assessment and performance monitoring of concrete structures; and
4. Develop an appreciation of the interdisciplinary nature of the research and development work conducted in the field of NDT.

Electrical Methods for Estimating the Chloride Resistance of Concrete—8:30 am

Michael D. A. Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada; David E. Smith, Levelton Consultants; and Ted Moffatt, University of New Brunswick

Evaluation of Saturation Techniques for In-Place Surface Electrical Resistivity Measurements—8:50 am

Michelle R. Nokken, Assistant Professor, Concordia University, Montreal, QC, Canada; and Jose Migue Sanchez Marquez, Concordia University

Resistivity versus Time Due to Concrete Composition and Exposure to Various Curing Regimes—9:10 am

Francisco Presuel-Moreno, Associate Professor, Florida Atlantic University, Dania Beach, FL; and Yanbo Liu, Victor Echevarria, and Yu-You Wu, Florida Atlantic University

Using Electrical Methods to Characterize Ion Diffusivity of Cracked Concrete—9:30 am

Alireza Akhavan, Student, Penn State University, State College, PA; and Farshad Rajabipour, Penn State University

Extensions of Surface Resistivity Testing for Optimization of Concrete Binary and Ternary Blends—9:50 am

Elizabeth Nadelman, Student, Atlanta, GA; and Kimberly E. Kurtis, Georgia Institute of Technology

Concrete Resistivity for Concrete Production: Comments on Variability and Potential Use in a Quality Control Plan—10:10 am

W. Jason Weiss, Professor, Purdue University, West Lafayette, IN; Richard M. Newell and Lee Schuyler, Milestone Contractors LLC; and Robert Spragg, Purdue University



2 AIA/CE LU

Monday, October 21, 2013

8:30 am - 10:30 am

Innovative Design and Construction in Concrete Columns, Part 1 of 2—C-211 A

Sponsored by Joint ACI-ASCE Committee 441, Reinforced Concrete Columns

Co-Moderators:

Hayder A. Rasheed
Professor
Kansas State University
Manhattan, KS

Riyadh A. Hindi
Associate Professor
Saint Louis University
Saint Louis, MO

New trends in innovative design and construction of concrete columns will be presented to promote advancement in this important application. The innovative design and construction includes the use of innovative materials such as ultra-high-strength concrete, shape memory alloys as lateral reinforcement, prefabricated cage system reinforcement, fiber-reinforced concrete, and using fiber-reinforced polymer (FRP) bars for longitudinal and transverse reinforcement. It also includes varying the loading patterns and the geometry of the columns. The subject of innovative interactive design of columns using mobile devices will be addressed as well.

By attending this session, attendees will be able to:

1. Demonstrate an understanding of the role of confinement in column behavior;
2. Recognize examples of columns designed and built with innovative materials and geometries;
3. Explain the role of loading patterns on the performance of columns; and
4. Educate peers on advanced technologies in column design.

Axial Compressive Model for High-Strength Concrete Columns Confined with Spirals—8:30 am

Riyadh A. Hindi, Associate Professor, Saint Louis University, Saint Louis, MO; and **Jonathan C. West**, Midwest Engineering Associates

Testing of Reinforced Concrete Bridge Columns Reinforced Laterally with Shape Memory Alloys—8:55 am

Bassem Andrawes, Associate Professor, University of Illinois at Urbana-Champaign, Urbana, IL; and **Moochul Shin**, Western New England University

Behavior of Square Concrete Columns Reinforced with a New Reinforcement—9:20 am

Halil Sezen, Associate Professor, Ohio State University, Columbus, OH

Performance of Reinforced Concrete Columns under Various Load Patterns—9:45 am

Fatemeh Shirmohammadi, Student, Kansas State University, Manhattan, KS; and **Asad Esmaily**, Kansas State University

Structural Behavior of High-Strength and Fiber-Reinforced Concrete Columns—10:10 am

Rami Eid, Senior Lecturer, Civil Engineering Department, Shamoon College of Engineering - SCE, Beer-Sheva, Israel; and **Patrick Paultre**, University of Sherbrooke



2 AIA/CE LU

Monday, October 21, 2013

8:30 am - 10:30 am

No Need to Doubt, When You Grout: Advances in Cementitious Grouting, Materials, and Applications, Part 1 of 2—C-212 A

Sponsored by ACI Committee 552, Cementitious Grouting

Co-Moderators:

Robert C. Lewis
Technical Marketing Manager
Elkem Materials
Reading, Berkshire, United Kingdom

Brian H. Green
Research Geologist
USACE-ERDC
Vicksburg, MS

The proper design and application of cement-based grouts is moving away from art toward a complex interdisciplinary science. The proper design and testing of cement grouts have marked effects on the performance of the grouted formation. Case studies presented in these sessions will highlight recent innovations in the area of cement grouting formulations, new quality control testing procedures, and innovative grouting materials. Highlighted case studies include injection grouting of underground water pipes; grouting of long tunnel linings, dams, and bridges; and waste containments.

By attending this session, attendees will be able to:

1. Have confidence in specifying and using grouting systems;
2. Recognize different grouts and materials relative to different applications;
3. Understand the specialized requirements of grouting technologies; and
4. Specify the correct grouting system/technique for their application.

Successes and Failures of Pressure Grouting to Remediate Sinkhole-Related Subsurface Conditions for Residential Structures—8:30 am

Said Irvani, President, Irvani P.A., Tampa, FL

Development of Sustainable Grout Containing Bentonite for Geotechnical Applications—8:55 am

Mohamed Sonebi, Associate Professor, Queen's University Belfast, Belfast, United Kingdom

A Schematic on the Design of Grout with Blast-Absorbing Properties Using Emerging Technologies—9:20 am

Jon S. Belkowitz, President, Intelligent Concrete LLC, Freehold, NJ

A Jet Grouting Field Demonstration Test—9:45 am

Peter T. Yen, Principal Engineer, Bechtel National Inc., San Francisco, CA

Anchoring Rebar Using Cementitious Grouts: An Alternative to Adhesive Anchoring—10:10 am

Jacques A. Bertrand, President, Ambex Concrete Technologies Inc., Laval, QC, Canada



2 AIA/CE LU

Monday, October 21, 2013

8:30 am - 10:30 am

Research in Progress, Part 1 of 2—C-207

Sponsored by ACI Committee 123, Research and Current Developments

Co-Moderators:

Kerry S. Hall
Assistant Professor
University of Southern Indiana
Evansville, IN

Jeffery S. Volz
Associate Professor
University of Oklahoma
Norman, OK

This session will feature presentations of original, unpublished results from ongoing research projects and leading-edge concrete technology and research throughout the world.

By attending this session, attendees will be able to:

1. Recognize ongoing concrete research projects from a wide range of research topics;
2. Identify recent techniques, research methods, and procedures related to structural and material aspects of concrete research;
3. Describe emerging ideas in concrete research; and
4. Summarize recent technical information related to concrete structures and materials research.

Shear Behavior of “Long” Carbon Fiber-Reinforced Concrete Beams without Shear Reinforcement—8:30 am

Benjamin Gliha, Graduate Student, Missouri S&T, Rolla, MO; Jeffery S. Volz, University of Oklahoma; and D. Ishmael Keener, Pro-Perma Engineered Coatings

Unidirectional FRP Material System: Qualification Tests and Performance-Based Comparison with Alternative Materials—8:45 am

Matteo Di Benedetti, Post-Doctoral Associate, University of Miami, Coral Gables, FL; Erblina Vokshi, Neptune Research, Inc.; and Francisco De Caso y Basalo and Antonio Nanni, University of Miami

Response of CFRP-Repaired RC Bridge Columns Containing Buckled and Fractured Reinforcement—9:00 am

Ruili He, Graduate Student, Missouri S&T, Rolla, MO; and Lesley Sneed, Missouri S&T

Capacity of Reinforced Concrete Moment Frame Culverts—9:15 am

Timothy Porter, Graduate Student, University of Delaware, Newark, DE; and Thomas Schumacher, University of Delaware

Effect of Varying Strain and Temperature on Prestress Loss Due to Steel Relaxation: Is It Important?—9:30 am

Zdeněk P. Bažant, Professor, Northwestern University, Evanston, IL; and Qiang Yu, University of Pittsburgh

Shear Strength of Reinforced Concrete Beams with Recycled Concrete Aggregate—9:45 am

Mahdi Arezoumandi, Graduate Student, Missouri S&T, Rolla, MO; Jeffrey S. Volz, University of Oklahoma; and Kamal H. Khayat, Missouri S&T

Bond Performance of Reinforced Concrete with Recycled Concrete Aggregate—10:00 am

Amanda R. Steele, Graduate Student, Missouri S&T, Rolla, MO; and Jeffrey S. Volz, University of Oklahoma

Imaging Damage in Full-Scale Reinforced Concrete Columns Subjected to Earthquake Loads—10:15 am

Hajin Choi, Graduate Student, University of Illinois, Urbana, IL; and John S. Popovics, University of Illinois



2 AIA/CE LU

Monday, October 21, 2013

9:00 am - 1:00 pm

✓ *Musical Instrument Museum—H-Depart north lobby doors on Monroe Street*
\$48.00 U.S. per person

Spend the morning/afternoon at the Musical Instrument Museum (MIM), as you are taken on a guided tour of the history of musical instruments throughout the world. This museum showcases the artistry, diversity, and movement of musical instruments from around the world. Instruments and musical culture from over 200 countries and territories, such as Chinese operas, big-band jazz ensembles, and mariachi bands are featured in unique exhibits throughout the museum. Highlights at the MIM include the Steinway piano on which John Lennon composed “Imagine,” Carlos Santana’s Yamaha guitar, and one of the enormous drums

played during the Opening Ceremony at the 2008 Olympic Games in Beijing. To learn more, visit www.mim.org.

Tour tickets may be purchased up to 24 hours prior to the event, based on availability. Tours are nonrefundable. All tours depart from the north lobby doors of the Hyatt Regency on Monroe Street.
✓ = Separate fee required

Monday, October 21, 2013

11:00 am - 1:00 pm

Concrete with Recycled Materials, Part 2 of 3—C-212 B

Sponsored by ACI Committee 555, Concrete with Recycled Materials

Moderator: Ahmed Ibrahim
Assistant Professor
Saint Louis University
Saint Louis, MO

The session description and learning objectives for this session may be found in the Part 1 listing; see page 95.

Using Recycled Water for the Production of Sustainable Concrete—11:00 am

Colin L. Lobo, Vice President of Engineering, NRMCA, Silver Spring, MD

Recycling Lead-Based Paint Contaminated Deconstructed Masonry Materials as Aggregate for Portland Cement Concrete—11:30 am

Jiong Hu, Assistant Professor, Texas State University-San Marcos, San Marcos, TX

Assessing Drying Shrinkage and Cracking Potential of Concrete Made with Recycled Concrete Aggregates—12:00 pm

Matthew P. Adams, Graduate Research Assistant, Oregon State University, Corvallis, OR



2 AIA/CE LU



2 GBCI CE hours

Monday, October 21, 2013

11:00 am - 1:00 pm

No Need to Doubt, When You Grout: Advances in Cementitious Grouting, Materials, and Applications, Part 2 of 2—C-212 A

Sponsored by ACI Committee 552, Cementitious Grouting

Co-Moderators: Robert C. Lewis
Technical Marketing Manager
Elkem Materials
Reading, Berkshire, United Kingdom

Brian H. Green
Research Geologist
USACE-ERDC
Vicksburg, MS

The session description and learning objectives for this session may be found in the Part 1 listing; see page 98.

Virginia Experience with Post-Tensioned Tendon Grouts—11:00 am

Michael M. Sprinkel, Associate Director, Virginia Transportation Research Council, Charlottesville, VA

Methods to Stabilize Cementitious Suspension Grouts—11:25 am

James Warner, Consulting Engineer, James Warner Consulting Engineers, Mariposa, CA

Micro-fine Cementitious Grout Using Calcium Sulfoaluminate (CSA) Cement in Lieu of Typical Portland Cement—11:50 am

Michael Ballou, Underground and Mining Specialist, CTS Cement, Taylorsville, UT

Performance Evaluation for Underwater Cement Grout—12:15 pm

Ammar Yahia, Associate Professor, University of Sherbrooke, Sherbrooke, QC, Canada; and Kamal H. Khayat, Missouri S&T

Evaluating Pumpability of Post-Tensioning Grouts Using Dynamic Shear Rheometer—12:40 pm

H. R. Trey Hamilton, Professor, University of Florida, Gainesville, FL; Chiara F. Ferraris, National Institute of Standards & Technology; Alexander J. Randell, Finley Engineering Group Inc.; and Alexander Piper, Computerized Structural Design



2 AIA/CE LU

Monday, October 21, 2013

11:00 am - 1:00 pm

Research in Progress, Part 2 of 2—C-207

Sponsored by ACI Committee 123, Research and Current Developments

Co-Moderators:

Kerry S. Hall

Assistant Professor

University of Southern Indiana
Evansville, IN

Jeffery S. Volz

Associate Professor

University of Oklahoma
Norman, OK

The session description and learning objectives for this session may be found in the Part 1 listing; see page 99.

The Pozzolanic Reactivity of Biomass and Co-Fired Fly Ash—11:00 am

Christopher R. Shearer, Graduate Student, Georgia Institute of Technology, Atlanta, GA; and Kimberly E. Kurtis, Georgia Institute of Technology

Early-Age Reaction Kinetics of Sodium and Potassium Silicates and Hydroxides in Alkali-Activated Slag Systems—11:15 am

Akash Dakhane, Graduate Student, Arizona State University, Tempe, AZ; and Narayanan Neithalath, Arizona State University

Paste Film-Forming Ability and Flowability as Parameters in Mixture Proportioning of Pervious Concrete—11:30 am

Betiglu E. Jimma, Graduate Student, Clemson University, Clemson, SC; and Prasad Rangaraju, Clemson University

A Poromechanical Model to Determine Coefficient of Thermal Expansion and Internal Stresses in Cryogenic Concrete—11:45 am

Syeda Rahman, Graduate Student, Texas A&M University, College Station, TX; Zachary Grasley, Virginia Tech; and Eyad A. Masad and Dan G. Zollinger, Texas A&M University

Evaluation of GPR to Determine Bridge Deck Deterioration—Case Study

Results—12:00 pm

Brandon Goodwin, Graduate Student, Missouri S&T, Rolla, MO; and Aleksandra Varnavina, Aleksey Khamzin, Evgeniy Torgashov, Lesley Sneed, and Neil Anderson, Missouri S&T

Initiation of New Long-Term Field Durability Testing at the Treat Island Natural Weathering Station—12:15 pm

Robert D. Moser, Research Civil Engineer, U.S. Army ERDC; and Brian H. Green, Todd S. Rushing, Paul G. Allison, and Jedadiah F. Burroughs, U.S. Army ERDC

Mechanism(s) Investigation on Using Fine Lightweight Aggregates to Mitigate Alkali-Silica Reaction (ASR) in Concrete—12:30 pm

Chang Li, Graduate Student, Oregon State University, Corvallis, OR; Jason H. Ideker, Oregon State University; and Michael D. A. Thomas, University of New Brunswick

Influence of Pumice on Calcium Hydroxide Content in an Aggressive Alkali-Silica Reaction—12:45 pm

Uma Ramasamy, Graduate Student, University of Utah, Salt Lake City, UT; Amanda C. Bordelon, University of Utah; and Paul J. Tikalsky, Oklahoma State University



2 AIA/CE LU

Monday, October 21, 2013

11:00 am - 1:00 pm

The Role of Silica Fume in the Conservation of Resources, Part 1 of 2—C-211 A

Sponsored by ACI Committee 234, Silica Fume in Concrete, and the ACI Arizona Chapter
Co-Moderators:

Tarif M. Jaber

President/Principal

Jaber Engineering Consulting Inc.

Scottsdale, AZ

Fouad H. Yazbeck

Technical Manager

Readymix Abu Dhabi

Abu Dhabi, United Arab Emirates

The benefits of silica fume to the concrete industry and the positive impact on conservation are sometimes overlooked and may not be as visible due to the learning challenges the industry has faced in using silica fume in concrete.

Arizona local chapter and ACI Committee 234, Silica Fume in concrete, have teamed up to present a two-session program to share the role of silica fume in conservation with ACI. This will include perspectives from ready mix producers, contractors, engineers, and owners.

By attending this session, attendees will be able to:

1. Understand the role of silica fume in the conservation;
2. Learn how silica fume has reduced regional and global energy and materials consumption;
3. Learn about the applications and projects where the use of silica-fume-impacted concrete properties toward innovation in conservation; and
4. Share the experience and perspective of the concrete industry after more than two decades of using silica fume.

Conservation of Resources via Concrete Materials, Structural Design, Constructibility, and Service Life—11:00 am

Kenneth C. Hover, Professor of Structural Engineering, Cornell University, Ithaca, NY

Post-Tensioned Concrete: The Silica Fume Story—11:30 am

Anthony N. Kojundic, Executive Director, Elkem Materials Inc., Pittsburgh, PA

Effects of Silica Fume on Pervious Concrete Properties—12:00 pm

John T. Kevern, Assistant Professor of Civil Engineering, University of Missouri-Kansas City, Kansas City, MO

Silica Fume: The Ready Mix Perspective—12:30 pm

Fouad H. Yazbeck, Technical Manager, Readymix Abu Dhabi, Abu Dhabi, United Arab Emirates



2 AIA/CE LU

Monday, October 21, 2013

11:30 am - 1:30 pm

✓ **Student Lunch—C-301 C**

\$36.00 U.S. per person

FREE to students who preregistered

Sponsored by Baker Concrete Construction Company, Inc.



Coordinated by the ACI Arizona Chapter and ACI Committee S801, Student Activities

Speaker: Ryan Abbott
Project Director
Sundt Construction, Inc.
Tempe, AZ



Topic: Things I Wish I Knew Before I Got Hired

Join students and other ACI attendees for the Student Lunch. Speaker Ryan Abbott with Sundt Construction, Inc., will give a presentation titled “Things I Wish I Knew before I Got Hired.” He will engage students and other attendees with advice and tips for succeeding in the post-great recession era.

Following the lecture, the results of the student competitions will be announced.

PREREGISTRATION IS REQUIRED TO ATTEND. Tickets may be purchased at the ACI Registration Desk up to 24 hours prior to the event, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.

✓ = Separate fee required

Concrete with Recycled Materials, Part 3 of 3—C-212 B

Sponsored by ACI Committee 555, Concrete with Recycled Materials

Moderator: Ahmed Ibrahim
Assistant Professor
Saint Louis University
Saint Louis, MO

The session description and learning objectives for this session may be found in the Part 1 listing; see page 95.

Feasibility of Reclaimed Asphalt Pavement as Aggregate in Concrete Pavements—1:30 pm

Michael Patrick Berry, Montana State University, Bozeman, MT

Controlled Low-Strength Material with Recycled Concrete Fines—2:00 pm

Jacob Henschen, PhD Candidate, University of Illinois at Urbana-Champaign, Urbana, IL

Mechanical Properties of Concrete Containing Sustainable Technologies: Fly Ash, Slag, Olive’s Seed Ash, and Corn Cob Ash—2:30 pm

Ahmed Eisa, Assistant Professor, Zagazig University, Zagazig, Sharkya, Egypt

Pervious Concrete Using Recycled Concrete Aggregate—3:00 pm

Yasser A. Khodair, Assistant Professor, Bradley University, Peoria, IL



2 AIA/CE LU



2 GBCI CE hours

Electrical Methods to Characterize and Monitor Concrete, Part 2 of 2—C-213 A

Sponsored by ACI Committees 222, Corrosion of Metals in Concrete; 228, Nondestructive Testing of Concrete; and 444, Structural Health Monitoring and Instrumentation

Co-Moderators: O. Burkan Isgor John S. Popovics
Associate Professor Associate Professor
Oregon State University University of Illinois
Corvallis, OR Urbana, IL

The session description and learning objectives for this session may be found in the Part 1 listing; see page 96.

Corrosion Detection in Concrete Rebars Using a Spectroscopic Technique—1:30 pm

Edward J. Garboczi, Group Leader/Inorganic Building Materials, National Institute of Standards and Technology, Gaithersburg, MD

Applications of Electrical Impedance-Based Methods as Microstructure and Property Predictive Tools in Cementitious Systems—1:50 pm

Narayanan Neithalath, Assistant Professor, Arizona State University, Tempe, AZ

Characterization of Steel Fiber Content in Cement-Based Composite Materials Using Electric/Magnetic Methods—2:10 pm

Stephen Garrett, Graduate Research Assistant, the University of Illinois, Urbana, IL; and John S. Popovics, University of Illinois

Numerical Investigation of the Influence of Concrete Cracks on Electrical Resistivity Measurements Using Four-Point Wenner Probe—2:30 pm

O. Burkan Isgor, Associate Professor, Oregon State University, Corvallis, OR; Mustafa Saleni and Pouria Ghods, Carleton University

A Painted Sensing Skin for EIT-Based Damage Detection in Concrete Elements—2:50 pm

Mohammad Pour-Ghaz, Assistant Professor, Department of Civil Construction and Environmental Engineering, North Carolina State University, Raleigh, NC; Milad Hallaji, North Carolina State University; and Aku Seppanen, University of Eastern Finland, Kuopio Campus

Non-Destructive Evaluation of Cracks in Mass Concrete using Normal Resistivity Borehole Logging—3:10 pm

Elodie Taillet, Student, University of Sherbrooke, Sherbrooke, QC, Canada; Patrice Rivard, University of Sherbrooke; and Jean-François Lataste and Alain Denis, University of Bordeaux



2 AIA/CE LU

Monday, October 21, 2013

1:30 pm - 3:30 pm

Innovative Design and Construction in Concrete Columns, Part 2 of 2—C-212 A

Sponsored by Joint ACI-ASCE Committee 441, Reinforced Concrete Columns

Co-Moderators:

Hayder A. Rasheed

Professor

Kansas State University

Manhattan, KS

Riyadh A. Hindi

Associate Professor

Saint Louis University

Saint Louis, MO

The session description and learning objectives for this session may be found in the Part 1 listing; see page 97.

Confinement Analysis for Hollow Circular Concrete Columns Compared to Solid Sections—1:30 pm

Ahmed Abd El Fattah, Assistant Professor, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia; and Hayder A. Rasheed, Kansas State University

Seismic Response of Columns Internally Reinforced with GFRP Bars and Spirals—1:55 pm

Shamim A. Sheikh, Professor, University of Toronto, Toronto, ON, Canada; and Jing Liu and A. Tavassoli, University of Toronto

Finite Element Confinement Analysis of Rectangular Columns Reinforced with Steel or FRP Bars—2:20 pm

Ahmed Al-Rahmani, Student, Kansas State University, Manhattan, KS; and Hayder A. Rasheed, Kansas State University

Software for Efficient and Interactive Design of Columns Using Mobile Devices—2:45 pm

Ronald L. O’Kane, Partner, Leigh & O’Kane LLC, Kansas City, MO

Performance of Full-Scale Ultra-High-Performance Fiber-Reinforced Concrete Column Subjected to Extreme Earthquake-Type Loading—3:10 pm

Shih-Ho Chao, Associate Professor, University of Texas-Arlington, Arlington, TX; Arturo Schultz, Alireza Nojavan, Sanputt Simasathien, and Guillermo Palacios, University of Texas-Arlington



2 AIA/CE LU

Monday, October 21, 2013

1:30 pm - 3:30 pm

The Role of Silica Fume in the Conservation of Resources, Part 2 of 2—C-211 A

Sponsored by ACI Committee 234, Silica Fume in Concrete, and the ACI Arizona Chapter

Co-Moderators:

Tarif M. Jaber

President/Principal

Jaber Engineering Consulting Inc.

Scottsdale, AZ

Fouad H. Yazbeck

Technical Manager

Readymix Abu Dhabi

Abu Dhabi, United Arab Emirates

The session description and learning objectives for this session may be found in the Part 1 listing; see page 103.

Transforming Concrete — The Plastic State—1:30 pm

Eckart R. Buhler, Manager Engineering, Norchem, Inc., Jupiter, FL

Design and Performance of SCC Made with Silica Fume—2:00 pm

Kamal H. Khayat, Professor, Missouri S&T, Rolla, MO

Combating ASR to Enable Usage of Local Aggregates in Turkey—2:30 pm

Robert C. Lewis, Technical Marketing Manager, Elkem Materials, Reading Berkshire, United Kingdom

The Role of Silica Fume Concrete in Preserving Resources by Reducing Environmental Impact—3:00 pm

Mark A. Bury, Senior Product Manager, BASF Admixtures Inc., Beachwood, OH



2 AIA/CE LU

Monday, October 21, 2013

3:00 pm - 5:00 pm

Margarita Garden—C-301 A&B

Sponsored by



HEADWATERS | M B

Headwaters is sponsoring the Margarita Garden in the exhibit hall and invites attendees to stop by for a beer or margarita and learn more about the value Headwaters can bring to your

business. Schedule a private and confidential appointment at the convention by contacting Charlotte Franson at cfranson@headwatersmb.com.

Monday, October 21, 2013

3:30 pm - 5:00 pm

***Guest Social—H-GARDEN TERRACE**

Marc Lubin invites all convention guests to join him for the Guest Social. You don't want to miss an opportunity to catch up with old friends, get to know other convention guests, and enjoy light refreshments from south of the border. A guest name badge is required to attend this event.

*= Guest-only event

Monday, October 21, 2013

4:00 pm - 6:00 pm

A Fresh Look at Cementitious Materials and Admixtures—C-212 A

Sponsored by ACI Committee E701, Materials for Concrete Construction

<i>Co-Moderators:</i>	David M. Suchorski Technical Services Manager Ash Grove Cement Co. Ankeny, IA	Darrell F. Elliot Technical Service Manager Buzzi Unicem USA Metairie, LA
-----------------------	--	--

This presentation includes an introduction and overview of the revised documents E3, "Cementitious Materials for Concrete," and E4, "Chemical Admixtures for Concrete," developed by Education Committee E701, Materials for Concrete Construction. E3 discusses portland, blended, and other hydraulic cements, along with supplementary cementitious materials such as slag cement, fly ash, and silica fume. E4 covers air-entraining admixtures, water-reducing and set-controlling admixtures, as well as specialty admixtures for various specific applications. Since these documents are intended for users and students, the information is presented in a more practical and instructive format than their technical committee counterparts.

By attending this session, attendees will be able to:

1. Recognize the various types of cements and supplementary cementitious materials
2. Recognize the various types of chemical admixtures;
3. Identify applications where specialty admixtures may be useful; and
4. Understand how these materials are used in concrete.

E701 Documents—An Overview—4:00 pm

Lawrence L. Sutter, Professor, Michigan Technological University, Houghton, MI

E3 - Cementitious Materials for a New Age—4:30 pm

Darrell F. Elliot, Technical Service Manager, Buzzi Unicem USA, Metairie, LA

E4 - Chemical Admixtures, Part 1—5:00 pm

Charles K. Nmai, Chief Engineer, BASF Corporation - Admixture Systems, Twinsburg, OH

E4 - Chemical Admixtures, Part 2—5:30 pm

Kari L. Yuers, President & CEO, Kryton International Inc., Vancouver, BC, Canada



2 AIA/CE LU

Monday, October 21, 2013

4:00 pm - 6:00 pm

Design Detailing to Mitigate Cracking—C-207

Sponsored by ACI Committee 224, Cracking

Co-Moderators:

Jeffrey S. West
Associate Professor
University of Waterloo
Waterloo, ON, Canada

Andrew Scanlon
Professor/Head CEE Engineering
Penn State University
University Park, PA

ACI Committee 224 is in the final stages of producing a new document titled “Guide to Design Detailing to Mitigate Cracking,” which provides recommendations for design details and structural framing guidelines to mitigate and control cracking in concrete buildings. The objective of this document is to address the mitigation and control of cracking by considering the overall nature of a structure and how members may experience additional cross-sectional stresses due to the restraint caused by the structural system. The effect of the geometry and layout of the concrete framing system on the unexpected cracking of individual members or joints is discussed, and recommendations for more favorable arrangements of structural framing to minimize restraint are presented. Additionally, specific framing conditions where the cracking of a particular part of the structure is directly or indirectly affected by the neighboring elements or the overall framing system are discussed, and suggested reinforcement and release details to avoid or minimize such cracking are provided. The session will present the main aspects of the document in terms of mitigation concepts, reinforcement details, and effective practices to mitigate and control cracking.

By attending this session, attendees will be able to:

1. Identify aspects of the structural system that may lead to development of cracking due to restraint effects;
2. Identify the possible predominate crack development, crack types, and crack locations for the main components of the structure, including one- and two-way slabs, columns, and slabs-on-ground;
3. Consider alternate structural system arrangements that may reduce the formation of restraint cracking; and
4. Examine and select appropriate design details, including reinforcement and release details to mitigate and control cracking.

Detail Detailing to Mitigate Cracking—An Overview—4:00 pm

Jeffrey S. West, Associate Professor, University of Waterloo, Waterloo, ON, Canada

Detailing of Two-Way Slab Systems—4:25 pm

Florian G. Barth, President, FBA, Inc., Los Gatos, CA

Detailing of One-Way Slab Systems—4:50 pm

Randall W. Poston, Principal, WDP & Associates PC, Austin, TX

Detailing of Columns—5:15 pm

Ralf Leistikow, Principal & Branch Manager, Wiss, Janney, Elstner Associates, Inc., Duluth, GA

Detailing of Slabs-on-Ground—5:40 pm

Harvey H. Haynes, Consulting Concrete Engineer, Haynes & Associates, Oakland, CA



2 AIA/CE LU

Monday, October 21, 2013

4:00 pm - 6:00 pm

Laboratory Test Methods for Corrosion Assessment: Technical Review and Practical Implications, Part 1 of 2—C-211 A

Sponsored by ACI Committee 222, Corrosion of Metals in Concrete

Co-Moderators:

O. Burkan Isgor	Danielle D. Kleinhans
Associate Professor	Structural/Transportation Engineer
Oregon State University	Concrete Reinforcing Steel Institute
Corvallis, OR	Schaumburg, IL

An overview of test methods will be provided along with advantages, pitfalls, and lessons learned regarding this testing. The session will serve to collect the thoughts of the state-of-practice and state-of-the-art of corrosion testing with the aim of ultimately aiding in the recommendation of identifying selected test methods for future use and potential implementation.

By attending this session, attendees will be able to:

1. Identify current types of reinforcing steel bars used for reinforced concrete construction;
2. Identify laboratory test methods used to evaluate corrosion resistance of reinforcing steel;
3. Compare the relative merit of the various test methods for different types of reinforcing steel; and
4. Define limitations of the various laboratory test methods.

State of the Practice: Reinforcing Steel—4:00 pm

Danielle D. Kleinhans, Structural/Transportation Engineer, Concrete Reinforcing Steel Institute, Schaumburg, IL

Application of Petrographic Analysis for Corrosion Assessment—4:25 pm

Sang Yun Lee, Senior Petrographer, CTLGroup, Skokie, IL; **Ann Daugherty**, ACI Foundation; and **Terry J. Willems**, CTLGroup

Long-Term Exposure of Specimens Indoors and Outdoors—4:50 pm

Francisco Presuel-Moreno, Associate Professor, Florida Atlantic University, Dania Beach, FL

Corrosion Testing and Service Life Projection for Black and Corrosion-Resistant Reinforcement Exposed to Chlorides—5:15 pm

William Hartt, Professor, Florida Atlantic University, Boca Raton, FL

Comparison of ASTM A955 Corrosion Testing Methods with Field Performance of Reinforcement—5:40 pm



Monday, October 21, 2013

4:00 pm - 6:00 pm

Recent Advances on Soil-Foundation-Structure Interaction in Seismic Bridge Design—C-212 B

Sponsored by ACI Committee 341, Earthquake-Resistant Concrete Bridges

Moderator: Sri Sritharan
Wilson Engineering Professor
Iowa State University
Ames, IA

The session will target an important topic on seismic design—soil-foundation-structure interaction (SFSI). While seismic design advances have been made, the impact of SFSI has not been adequately addressed in design practice.

By attending this session, attendees will be able to:

1. Understand the importance of SFSI on seismic design;
2. Demonstrate potential consequences of not properly accounting for SFSI;
3. Highlight what parameters cause more significant SFSI effects; and
4. Show how to integrate SFSI in design.

Influence of Foundation Flexibility on the Moment Gradient of Slender RC Bridge Columns under Seismic Demands—4:00 pm

Pedro F. Silva, Associate Professor, the George Washington University, Washington, DC; and Rigoberto Burgueno, Michigan State University

Nonlinear Analysis and Design of Caissons and their Connections—4:30 pm

Dawn E. Lehman, Associate Professor, University of Washington, Seattle, WA

Effect of Lateral Spreading on Bridges during the Canterbury Earthquake Sequence—5:00 pm

Liam Wotherspoon, Research Fellow, Auckland, New Zealand

Pushover Analysis of Seismic Bridge Columns Supported on Drilled Shafts—5:30 pm

Aaron Shelman, Bridge Designer, Figg Engineering Group, Denver, CO; and Sri Sritharan, Iowa State University



Monday, October 21, 2013

4:00 pm - 6:00 pm

Undergraduate Research on Concrete Materials, Structural Design, or Construction—C-213 A

Sponsored by ACI Committee S805, Collegiate Concrete Council-CLGE

Moderator: John J. Schemmel
Professor, Department of Civil Engineering
Valparaiso University
Valparaiso, IN

This session will feature presentations on concrete-related research conducted predominately by undergraduate students. An emphasis is placed on undergraduate research at a nondoctoral institution.

By attending this session, attendees will be:

1. Exposed to the high-quality research conducted by undergraduate students at nondoctoral institutions;
2. Able to provide feedback on research topics, research methodologies, and presentation skills to young engineers;
3. Able to network with other researchers to discuss research needs and possible research collaborations; and
4. Able to meet with potential graduate students.

Producing High-Strength Self-Compacted Concrete with Local Materials in the Suez Canal Area—4:00 pm

Mohamed Ahmed Elmansy, Undergraduate Student, Faculty of Engineering, Suez Canal University, Ismailia, Egypt; and **Lamis Mohamed Yasser, Marwa Ahmed Mohamed Kamal, Kamal Gad Sharobim, and Hasan Ahmed Mohammadin**, Suez Canal University

An Analysis of the ASTM C172 Requirement for Multi-Portion Samples—4:15 pm

Michael Salguero, Undergraduate Student, Department of Civil Engineering, Valparaiso University, Valparaiso, IN; and **Matthew West and John J. Schemmel**, Valparaiso University

An Experimental Study on Retrofitting and Shear Strengthening of R.C.C. Beams—4:30 pm

Rushangkumar Rushikumar Dave, Undergraduate Student, Civil Engineering Department, Pandit Deendayal Petroleum University, Gandhinagar, Gujarat, India; **Ravi Gehlot**, Pandit Deendaval Petroleum University; and **Himat T. Solanki**, Nirma University

Application of Digital Image Correction for Characterizing Behavior of Concrete Subjected to Standard ASTM Test Methods—4:45 pm

Marc Hansen, Undergraduate Student, Department of Civil Environmental Engineering, University of Virginia, Charlottesville, VA; and **Devin K. Harris**, University of Virginia

Constructing and Validating Fiber Dispersion States in Fiber-Reinforced Concrete—5:00 pm

Jem Locquiao, Undergraduate Student, Civil and Environmental Engineering, University of Utah, Salt Lake City, UT; and **Amanda Bordelon**, University of Utah

Uncontrolled Concrete Bridge Parapet Cracking—5:15 pm

Amy E. Kalabon, Student, Department of Civil Engineering, Cleveland State University, Parma, OH; and **Jeff Bazzo and Norbert J. Delatte**, Cleveland State University

A Sustainable Recycling Process for Aggregate Waste for Environmental Protection along with Economic Returns—5:30 pm

Abdulaziz Y. BuAeshah, Undergraduate Student, Department of Civil and Environmental Engineering, King Faisal University, Al Ahsa, Kingdom of Saudi Arabia; and **Fahad S. Al Sadun, Abdulmoez A. Al-Ismaeel**, and **Shahid Kabir**, King Faisal University

An Analysis of Sulfur Trioxide in Aggregates for Concrete Using an ASTM Standard for Portland Cement—5:45 pm

Sarah E. Brunsvold, Undergraduate Student, Department of Civil Engineering, Valparaiso University, Valparaiso, IN; and **Zudhi Aljobeh** and **John J. Schemmel**, Valparaiso University

Monday, October 21, 2013

6:00 pm - 7:00 pm

Women in ACI Reception—H-COWBOY

All registered convention attendees are invited to attend the Women in ACI Reception. This long-standing ACI tradition is a great opportunity to get to know other women in the concrete industry. A cash bar and light hors d'oeuvres will be served.

Monday, October 21, 2013

6:00 pm - 9:00 pm

✓Rawhide Western Town Event—H-Depart north lobby doors on Monroe Street \$103.00 U.S. per person

The evening begins with a western buffet and cash bar. You will then experience a Rough Riders show, stagecoach ride, and time to tour the Wagon Wheel Plaza.

Tour tickets may be purchased up to 24 hours prior to the event, based on availability. Tours are nonrefundable. All tours depart from the north lobby doors of the Hyatt Regency on Monroe Street.

✓ = Separate fee required

Monday, October 21, 2013

6:30 pm - 8:30 pm

123 Forum: Can Cement Specifications Be Used to Reduce Cracking in Concrete?—H-CURTIS A&B

Sponsored by ACI Committee 123, Research and Current Developments
Co-Moderators: Thomas Schumacher Assistant Professor University of Delaware Newark, DE
Farshad Rajabiopour Assistant Professor Penn State University University Park, PA

Early-age cracking of concrete bridge decks and other restrained members has been a common problem reported by many state departments of transportation (DOTs). These cracks increase the penetration of moisture and salts to the reinforcing bar level, and can accelerate

deteriorations and shorten the service life of concrete infrastructure. Over the last decade, concrete mixture proportioning, placement, and curing guidelines have been proposed to reduce the risk of early-age cracking. For example, these guidelines suggest reducing the cement content, limiting the compressive strength, reducing slump, monitoring the placement temperature and ambient conditions to minimize plastic shrinkage cracking, ensuring proper and timely moist curing, and employing rigorous quality control measures.

Recently, there have been talks of an alternative solution, which suggests a need to modify portland cement specifications or to develop a new Type VI crack-resistant cement. It argues that high alkali content of portland cement, together with high fineness, results in a reduced tensile strain capacity and increased heat of hydration, which ultimately cause a higher risk of drying shrinkage and thermal cracking. As such, by imposing upper limits on the alkali content and fineness of cement, a new crack-resistant cement type could be developed.

A panel of experts will debate the benefits and challenges of this alternative approach. Here are some of the important questions to consider:

- Has the proposed method of crack control been sufficiently tested and technically proven as a viable alternative to the existing methods? What are the advantages and drawbacks?
- Is production of this new cement technologically feasible and economically competitive with current portland cement types? Are cement producers willing to manufacture this material?
- Is there a need to change cement specifications?
- Would the construction industry accept and employ the new cement?

The forum will include a short presentation by each panelist, followed by an interactive discussion with the audience.

By attending this session, attendees will be able to:

1. Explain the problems stemming from early-age cracking in concrete;
2. Describe the current methods to prevent or reduce early-age cracking;
3. State the proposed approach to develop crack-resistant cement and its potential benefits and challenges; and
4. Point out arguments for and against modifying cement specifications to reduce concrete cracking.

W. Jason Weiss, Professor, Purdue University, West Lafayette, IN

Richard Burrows, U.S. Bureau of Reclamation, Lakewood, CO

Bryce Simons, Materials Testing Engineer, New Mexico Department of Transportation, Santa Fe, NM

Bruce Blair, Lafarge North America, Herndon, VA

Lawrence L. Sutter, Professor, Michigan Technological University, Houghton, MI



2 AIA/CE LU

✓ **Taliesin West - Design Studio of Frank Lloyd Wright—H-Depart north lobby doors on Monroe Street**
\$65.00 U.S. per person

Taliesin West is a National Historic Landmark built by Frank Lloyd Wright between 1937 and 1959. He used this desert masterpiece as his personal winter home, studio, and architectural campus. The living quarters and the dramatic “Garden Room” are the highlights of this tour, which also includes a visit to the Cabaret Theater, Music Pavilion, Seminar Theater, and Wright’s private office—all linked by dramatic terraces, a garden, and walkways overlooking the Sonoran Desert. Tour this amazing facility and experience Wright’s brilliant ability to integrate indoor and outdoor spaces, as well as what it might have been like to be a guest in this famous home.

*Tour tickets may be purchased up to 24 hours prior to the event, based on availability. **Tours are nonrefundable.** All tours depart from the north lobby doors of the Hyatt Regency on Monroe Street.*

✓ = **Separate fee required**

Contractors’ Day Session: Help, I’m Being Sued!—C-207

Sponsored by the ACI Arizona Chapter

Moderator: Luke M. Snell
 Senior Materials Engineer
 Western Technologies Inc.
 Tempe, AZ

This session will present concepts of how the design professionals and contractors can limit their risk of being sued and, if sued, how to survive the deposition experience.

By attending the session, attendees will be able to:

1. Identify risk management procedures that can help you avoid a lawsuit;
2. Recognize how to manage your attorney during a lawsuit;
3. Understand the importance of a deposition in the legal process; and
4. Understand how a deposition is conducted.

Lawsuit Avoidance and Mitigation—8:30 am

Jeff Parker, Vice President and General Council, Western Technologies Inc., Phoenix, AZ

The Deposition—9:15 am

Jeffrey W. Coleman, Attorney at Law/PE, The Coleman Law Firm LLC, Minneapolis, MN

Questions and Answers—10:00 am

Luke M. Snell, Senior Materials Engineer, Western Technologies Inc., Tempe, AZ



***Design and Construction of Durable Concrete Parking Structures,
Part 1 of 2—C-212 A***

Sponsored by ACI Committee 362, Parking Structures

Co-Moderators: James P. Donnelly
Associate Principal
Wiss, Janney, Elstner Associates, Inc.
Northbrook, IL

Erich L. Martz
Senior Project Manager
Tourney Consulting Group LLC
Prairie Village, KS

The presentations in each of the two sessions will cover topics regarding how a concrete parking structure's performance and durability can be impacted by decisions made during design and construction. The mechanisms of degradation that a concrete parking structure can be exposed to that adversely affect durability and performance and the measures that can be employed to mitigate these degradation mechanisms are presented.

By attending this session, attendees will be able to:

1. Understand the various design aspects of concrete parking structures;
2. Recognize service-life design for concrete parking structures;
3. Identify writing performance-based specifications for concrete parking structures; and
4. Analyze materials used in concrete to provide durability.

The History of ACI 362—The Guide for the Design and Construction of Durable Concrete Parking Structures—8:30 am

Carl Walker, Parking Consultant, CW Consulting LLC, Kalamazoo, MI

Structural Diaphragm Considerations for Parking Structures—8:50 am

Rashid Ahmed, Vice President/Regional Structural Engineer, Walker Parking Consultants, Elgin, IL

Ignoring Durability Recommendations—Good Garages Gone Bad—9:10 am

James P. Donnelly, Associate Principal, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL; and Brian Pulver, Wiss, Janney, Elstner Associates, Inc.

Rational Design of Vehicle Barriers in Parking Facilities—9:30 am

Mohammad Iqbal, Consulting Engineer, Iqbal Group, Elgin, IL

Providing Drainage for Durable Concrete Parking Structures—9:50 am

Jeff S. Adams, Structural Project Engineer, HNTB, Kansas City, MO



2 AIA/CE LU

Innovation in Cooling Mass Concrete—C-212 B

Sponsored by ACI Committees 207, Mass Concrete, and 231, Properties of Concrete at Early Ages

Co-Moderators: Anton Karel Schindler
Professor and HRC Director
Auburn University
Auburn, AL

Miguel Azenha
Assistant Professor
University of Minho
Portugal

Mass concrete members are often encountered in projects. The service life of mass concrete members can significantly be extended by controlling concrete temperatures. Innovative cooling methods have recently been developed to assist contractors and engineers in controlling the temperatures in mass concrete members. Innovations in concrete cooling and methods to predict the effect of cooling will be discussed.

By attending this session, attendees will be able to:

1. Explain the importance of concrete temperature control;
2. Discuss recent innovations in pre- and post-cooling;
3. Understand simulation methods available to estimate the effect of cooling; and
4. Describe recent projects where cooling was used.

Introduction—8:30 am

Post-Cooling of Mass Concrete Bridge Elements—8:35 am

John W. Gajda, Senior Engineer, CTLGroup, Skokie, IL

Post-Cooling of Mass Concrete with Ventilated Prestressing Ducts—8:58 am

Miguel Azenha, Assistant Professor, University of Minho, Portugal

Numerical Simulation of a Post-Cooling System in the Tocoma Dam—9:21 am

Eduardo Fairbairn, COPPE UFRJ, Rio de Janeiro, Brazil

Pre- and Post-Cooling at the Folsom Dam—9:44 am

Curtis Daniels, Granite Construction Inc., Fresno, CA

Current Status of Thermal Crack Control by Concrete Cooling in Japan—10:07 am

Tetsuya Mishima, Deputy General Manager, Maeda Corporation, Nerima-ku, Tokyo Japan



2 AIA/CE LU

Tuesday, October 22, 2013

8:30 am - 10:30 am

Laboratory Test Methods for Corrosion Assessment: Technical Review and Practical Implications, Part 2 of 2—C-211 A

Sponsored by ACI Committee 222, Corrosion of Metals in Concrete

<i>Co-Moderators:</i>	O. Burkan Isgor Associate Professor Oregon State University Corvallis, OR	Danielle D. Kleinhaus Structural/Transportation Engineer Concrete Reinforcing Steel Institute Schaumburg, IL
-----------------------	--	---

The session description and learning objectives for this session may be found in the Part 1 listing; see page 110.

Overview of Testing Used to Evaluate Corrosion-Resistant Reinforcing Bars—8:30 am

Paul D. Krauss, Senior Consultant, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL; and John S. Lawler, Wiss, Janney, Elstner Associates, Inc.

Comparative Investigation of Corrosion Measurement Techniques in the Assessment of Loaded Concrete Bridge Decks in Controlled Laboratory Conditions—8:55 am

Parham Chabi, Student, University of Ottawa, Ottawa, ON, Canada; **O. Burkan Isgor**, Oregon State University; **Pouria Ghods**, Carleton University; and **Beatriz M. Martin-Perez**, University of Ottawa

Assessment of Methods to Determine Chloride Threshold Levels for Stainless Steels—9:20 am

Sara Randstrom, R&D Liaison and Technical Support Manager, Outokumpu Stainless AB, Avesta, Sweden; and **Poul-Erik Arnvig**, **Murray Anderson Adair**, and **Mikael Schonning**, Outokumpu Stainless Ltd.

Evaluating Corrosion Protection Systems for Bridge Decks with Modified Macrocell Specimens—9:45 am

Chungwook Sim, Graduate Research Assistant, Purdue University, West Lafayette, IN; and **Robert J. Frosch**, Purdue University

The Advantages and Limitations of Cyclic Polarization Tests—10:10 am

Carolyn M. Hansson, Professor, University of Waterloo, Waterloo, ON, Canada



2 AIA/CE LU

Tuesday, October 22, 2013

11:00 am - 1:00 pm

Admixtures for SCC—C-211 A

Sponsored by ACI Committees 212, Chemical Admixtures, and 237, Self-Consolidating Concrete

Co-Moderators:

Raissa P. Ferron
Assistant Professor
University of Texas
Austin, TX

Ketan R. Sompura
Product Manager
Sika Corporation
Lyndhurst, NJ

The objective of this session is to show the benefits of admixtures available today used for self-consolidating concrete (SCC) production. Presentations will discuss consistency of fresh SCC properties and provide guidance on how to select admixtures and improve the robustness of SCC. The session will address how admixtures can be used to improve production and quality of SCC and present case studies of projects where SCC was used successfully.

By attending this session, the attendees will be able to:

1. Recognize the benefits of admixtures available today for SCC;
2. Select the right admixtures for different SCC applications;
3. Identify factors to consider to achieve success with SCC; and
4. Generalize information from projects successfully completed using SCC.

Robust SCC Mixes: What Admixtures Should I Use and When Should I Use Them?—11:00 am

Joseph A. Daczko, Product Line Manager, BASF Construction Chemicals, Mantua, OH

How SCC Was Used to Rebuild World Trade Center in NYC—11:20 am

Casimir J. Bognacki, Chief of Materials, The Port Authority of New York & New Jersey, New Hyde Park, NY

Selection of Right VMAs for SCC—11:40 am

Ketan R. Sompura, Product Manager, Sika Corporation, Lyndhurst, NJ

Benefits of SCC in Precasting Plants—12:00 pm

Avery A. Flores, Quality Control Coordinator, Old Castle Precast Inc., Oakley, CA

SCC: Today and Tomorrow—12:20 pm

William S. Phelan, Vice President of Marketing & Technical Services, The Euclid Chemical Co., East Brunswick, NJ

Use of Chemical Admixtures to Maintain SCC Performance for Extended Delivery Time—12:40 pm

Ara A. Jeknavorian, Research Fellow, Cambridge, MA; and G. Terry Harris, W R Grace & Co



2 AIA/CE LU

Tuesday, October 22, 2013

11:00 am - 1:00 pm

Design and Construction of Durable Concrete Parking Structures, Part 2 of 2—C-212 A

Sponsored by ACI Committee 362, Parking Structures

<i>Co-Moderators:</i>	James P. Donnelly Associate Principal Wiss, Janney, Elstner Associates, Inc. Northbrook, IL	Erich L. Martz Senior Project Manager Tourney Consulting Group LLC Prairie Village, KS
-----------------------	--	---

The session description and learning objectives for this session may be found in the Part 1 listing; see page 116.

Test Performance of Double-Tee Flanges with Carbon Fiber Reinforcement—11:00 am

Ned M. Cleland, President, Blue Ridge Design Inc., Winchester, VA

Performance-Based Specifications Relating to Concrete Parking Structures—11:20 am

Lawrence E. Kaiser, W R Grace & Company, Chesterfield, MO

Use of Zinc Coating on Precast Steel Embeds to Mitigate Corrosion—11:40 am

Harry A. Gleich, Vice President Engineering, Metromont Corporation, Greenville, SC

Service-Life Prediction for Parking Structures—12:00 pm

Erich L. Martz, Senior Project Manager, Tourney Consulting Group LLC, Prairie Village, KS

One Day Stressing Cycles for Post-Tension Concrete Systems Used in Parking Structures—12:20 pm

John F. Gibbons, Central Region Manager, Concrete Reinforcing Steel Institute, Schaumburg, IL



2 AIA/CE LU

Tuesday, October 22, 2013

11:00 am - 1:00 pm

Sustainable Solutions for Seismic Repair of Bridges—C-212 B

Sponsored by ACI Committee 341, Earthquake-Resistant Bridges

Co-Moderators: Shukre J. Despradel
Structural Engineer
Infinity Engineers
Tampa, FL

Mervyn J. Kowalsky
Professor
North Carolina State University
Raleigh, NC

Repairing a damaged bridge after an earthquake is an attractive alternative when compared with the high costs and social impact of complete replacement. The objective of this session is to discuss the state-of-the-art techniques, analytical approaches, and experimental experience of seismic repair of damaged bridges. The presentations will focus on discussing damage assessment, design, detailing, and testing of the damaged component repair using innovative technology.

By attending this session, attendees will be able to:

1. Assess damage levels;
2. Understand seismic performance objectives;
3. Demonstrate repair procedures for different bridge components; and
4. Recognize failure modes and selection of the repair technique.

Post-Earthquake Damage Repair of Various Reinforced Bridge Components—11:00 am

M. Saïid Saïidi, Professor, University Of Nevada, Reno, Reno, NV; and Amarjeet Singh Saini, University of Nevada, Reno

Repair of Damaged Bridge Column-to-Pier Cap Fastened/Grouted Splice Sleeved Connection Using FRP Shells and Plastic Hinge Relocation—11:24 am

Chris P. Pantelides, Professor, University of Utah, Salt Lake City, UT; and Lawrence D. Reaveley, Joel Edgar Parks, M. J. Ameli, and D. N. Brown, University of Utah

Repair of Heavily Damaged Bridge Columns by Plastic Hinge Relocation—11:48 am

Rudolf Seracino, Associate Professor, North Carolina State University, Raleigh, NC; and Mervyn J. Kowalsky and Ty Rutledge, North Carolina State University

Repair of Earthquake-Damaged Bridge Columns with Fractured Bars and Interlocking Spirals—12:12 pm

Lesley H. Sneed, Assistant Professor, Missouri S&T, Rolla, MO; M. Saïid Saïidi, University of Nevada, Reno; Yang Yang and Adam Morgan, Missouri S&T; and Abdeldjelil Belarbi, University of Houston

Repair of Damaged Bridge Column-to-Footing Grouted Splice Sleeved Connection Using FRP Jacketing and Plastic Hinge Relocation—12:36 pm



Tuesday, October 22, 2013

11:00 am - 1:00 pm

Tablets in the Workplace—C-207

Sponsored by ACI Committee 118, Use of Computers

Co-Moderators: Rita K. Oglesby
St. Petersburg, FL

James M. Shilstone
Concrete Technologist
Command Alkon, Inc.
Frisco, TX

Tablets are becoming an integral part of the workplace. There are many applications for tablets. Learn the differences between Windows 8, Android, and Apple tablets. See how tablets can be used productively for ACI's website, staying in touch using social media, and ways to go paperless.

By attending this session, attendees will be able to:

1. Learn how to navigate the new ACI website;
2. Recognize various forms of social media and how they affect your workplace;
3. Understand how to have a paperless office; and
4. Explore the differences between tablet platforms.

ACI's New Website: An Introduction—11:00 am

Christopher J. Darnell, Director, Website Strategy and Content, American Concrete Institute, Farmington Hills, MI

Update on Using Social Media on Tablets—11:25 am

Danielle R. Harris, Marketing Assistant, American Concrete Institute, Farmington Hills, MI

Paperless Projects in the Workplace—11:50 am

Daniel Shirkey, Technology COE Leader, Balfour Beatty Construction, San Diego, CA

Comparison of Windows 8/Android/Apple Tablets—12:15 pm

James M. Shilstone, Concrete Technologist, Command Alkon, Inc., Frisco, TX

Technology Forum—12:40 pm

Rita K. Oglesby, St. Petersburg, FL



Tuesday, October 22, 2013

11:30 am - 1:30 pm

✓ *Contractors' Day Lunch—C-104 A&B*

Coordinated by the ACI Arizona Chapter and the Construction Liaison Committee

Speaker: Ken Nishiyama Atha
Regional Administrator
Federal Occupational Safety and Health Administration
San Francisco, CA



Topic: Overview of OSHA Initiatives

Join other ACI attendees and contractors for the Contractors' Day Lunch.

In this session, attendees will hear directly from Ken Nishiyama Atha, Regional Administrator for Federal OSHA, on their current initiatives and activities and will also get a look at the future of OSHA enforcement.

Atha began his safety career with the Department of Defense as a Safety and Occupational Health Manager at Moffett Federal Airfield in California. He is a veteran of Desert Shield, Desert Storm, and Operation Allied Force. Atha earned his Bachelor of Science degree in criminal justice with emphasis on public administration law from Mount Senario College, Ladysmith, WI., and also holds associates degrees in safety and flight engineering. Atha began his career with OSHA in 1997 as a Safety Specialist in the Milwaukee area office. During his tenure with the agency, Atha has served as Assistant Area Director for OSHA's Appleton, WI., area office, Area Director in the Columbia, SC, and Mobile, AL., area offices, and Acting Deputy Regional Administrator in Region III, headquartered in Philadelphia.

PREREGISTRATION IS REQUIRED TO ATTEND. Tickets may be purchased at the ACI Registration Desk up to 24 hours prior to the event, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.

✓ = Separate fee required

Tuesday, October 22, 2013

1:30 pm - 3:30 pm

Contractors' Day Session: Economic Forecast for the Concrete Industry—C-207

Sponsored by the Arizona Chapter

Moderator: James Rogers
Director of Certification Programs
ACI Arizona Chapter
Mesa, AZ

As our economy makes a comeback, it will be critical for contractors to understand how this will affect the construction industry. Edward Sullivan will present the latest economic forecast and will discuss the factors that may have an impact on the future of construction spending and cement consumption.

As Vice President and Chief Economist, Sullivan directs all PCA's forward assessments of the economy, cement consumption, and the construction industry for the United States, Canada, and internationally. In January 2009, the *Wall Street Journal* cited Sullivan as "one of the first economists to predict the current downturn." He was also named among the top 10 influencers in the concrete industry during 2008 by a major industry trade publication. In addition, he was cited as one of the industry's two most influential people by an international cement magazine. Sullivan was named by the Chicago Federal Reserve as 2008's most accurate forecaster among

30 top economists. This marked the third time in 4 years the Federal Reserve has awarded him this honor. Various other forecasting surveys have placed Sullivan among the most accurate construction economists in the country. His analysis and views regarding the construction, cement, and concrete industries are widely used in corporate planning efforts, government policy, and media. He will present his latest forecasts for the U.S. economy and the cement and concrete industries, including a regional breakdown with information to help contractors plan for the future.

By attending this session, attendees will be able to:

1. Describe the factors that will influence future construction spending;
2. Explain the current trends in the economy;
3. List the areas of the country that are expected to have the largest impact on construction spending; and
4. Describe the links between future economic trends and cement consumption.

Economic Forecast for the Concrete Industry—1:30 pm

Edward J. Sullivan, Vice President and Chief Economist, Portland Cement Association, Skokie, IL



2 AIA/CE LU

Tuesday, October 22, 2013

1:30 pm - 3:30 pm

I'm Cured! What's New In Curing Concrete? Part 1 of 2—C-212 A

Sponsored by ACI Committee 308, Curing Concrete

Moderator: Ronald L. Kozikowski
Materials Engineer
North Starr Concrete Consulting
Dover, NH

Everyone knows it is better to cure your concrete, but did you know we now have several updated and new tools to help you do that? ACI 308 recently has completed updates to the Curing Specification and the Guide to Concrete Curing and has produced a new report on internal curing. Additionally, case studies of successful curing and curing of various specialty concrete, such as decorative concrete, mass concrete, and concrete pavement, will be presented.

By attending this session, attendees will be able to:

1. Recognize the recent updates to the curing specification and guide to curing documents;
2. Identify internal curing using lightweight aggregates;
3. Understand curing techniques for specialized concrete applications including pervious, mass, residential, and decorative concrete; and
4. Research a new green curing product developed by Oklahoma State University.

Challenges Associated With Curing Mass Concrete—1:30 pm

Darrell F. Elliot, Technical Services Manager, Buzzi Unicem USA, Thurmont, MD

Case Studies of Successful Curing—2:00 pm

Dan G. Zollinger, Assistant Professor, Texas A & M University, Bryan, TX

Applying Silicate Hardeners before Curing Compounds—2:30 pm

Scott M. Tarr, Senior Engineer, North Starr Concrete Consulting, Dover, NH

Controlled Release Surface Curing Material—3:00 pm

Tyler Ley, Assistant Professor, Oklahoma State University, Stillwater, OK



2 AIA/CE LU

Tuesday, October 22, 2013

1:30 pm - 3:30 pm

Open Paper Session, Part 1 of 2—C-211 A

Sponsored by ACI Committee 123, Research and Current Developments

Co-Moderators:

Piotr Paczkowski Structural Engineer Parsons Brinckerhoff Tampa, FL	Eric R. Giannini Assistant Professor The University of Alabama Tuscaloosa, AL
---	---

The Open Paper Session is a forum for presenting recent technical information that could not be scheduled into other convention sessions.

By attending this session, attendees will be able to:

1. Recognize new and emerging materials for civil infrastructures;
2. Demonstrate the various methods to assess the current conditions of structures and how to repair them;
3. Identify recent techniques, research methods, and procedures related to the structural and material aspects of concrete; and
4. Explain the behavior of various high-performance cementitious composites.

An Investigation to Explain the Variability of CTE Test Procedures—1:30 pm

Md. Sarwar Siddiqui, PhD Candidate, The University of Texas at Austin, Austin, TX; and **David W. Fowler**, The University of Texas at Austin

Performance of Rapid-Repair Concrete in Marine Environment—1:50 pm

Edward G. Moffatt, PhD Candidate, University of New Brunswick, Fredericton, NB, Canada; **Michael D. A. Thomas**, University of New Brunswick

Rheological Methods for Cementitious Suspensions: The Yield Stress and Rheological Models—2:10 pm

Kirk E. Vance, Doctoral Student, Arizona State University, Scottsdale, AZ; **Narayanan Neithalath**, Arizona State University; and **Gaurav Sant**, University of California, Los Angeles

Determining the Air Void and Aggregate Contents and their Distributions in Concrete Using Quantitative Computed Tomography Imaging Approach—2:30 pm

Arash Razmjoo, PhD Candidate, Clemson University, Clemson, SC; and **Amir Poursaei**, Clemson University

Preliminary Investigations on the Feasibility of Using Phase Change Materials to Mitigate the Driving Forces of Thermal Cracking in Cementitious Materials—2:50 pm

Gaurav N. Sant, Assistant Professor and Rice Chair, University of California, Los Angeles, Los Angeles, CA; **Fabio Fernandes**, **Kevin Santos**, and **Tandre Oey**, University of California, Los Angeles; **Shilpa Manari**, Cera-Chem Private Limited; and **Mathew Aguayo** and **Narayanan Neithalath**, Arizona State University

Case Study on Concrete Pavers Exhibiting Physical Salt Attack—3:10 pm

Sang Yun Lee, Senior Petrographer, CTLGroup, Skokie, IL; and **Terry Willems**, CTLGroup



2 AIA/CE LU

Tuesday, October 22, 2013

1:30 pm - 3:30 pm

Workability of Sustainable Concrete—C-212 B

Sponsored by ACI Subcommittee 130-B, Production/Transport/Construction; and ACI Committee 238, Workability of Fresh Concrete

Co-Moderators:

Peter H. Billberg
Product Developer
Strängbetong
Stockholm, Sweden

Eric P. Koehler
Vice President
Verifi
Cambridge, MA

The construction products of the future will require not only adequate mechanical properties but will also be designed with the environmental, social, and economic impacts of the material in mind. This often involves the incorporation of alternative/supplementary materials, which can influence the processing, production, transportation, and construction of the resultant concrete. This session will focus on the rheology and workability of present and future sustainable concretes.

By attending this session, attendees will be able to:

1. Obtain in-depth knowledge on fresh concrete rheology and workability;
2. Differentiate between various sustainable concretes;
3. Identify key issues to consider with respect to the workability of these concretes; and
4. Discover potential hazards to avoid during production, transportation, placement, and finishing.

EcoCrete: Extreme Flow, Service Life, and Carbon Footprint Reduction—1:30 pm

Fouad H. Yazbeck, Technical Manager, Readymix Abu Dhabi, Abu Dhabi, United Arab Emirates

Effects of Job Site Workability Adjustments on Sustainability—1:50 pm

Eric P. Koehler, Vice President, Verifi, Cambridge, MA

Sustainable SCC: Design Method, Workability, and Performance—2:10 pm

Behrouz Esmaeilkhanian, Student, University of Sherbrooke, Sherbrooke, QC, Canada

Carbon Footprint of Concrete—2:30 pm

Olafur H. Wallevik, Manager, Innovation Center Iceland, Reykjavik, Iceland

How to Precast Concrete Pipes in a More Sustainable and Ecological Way, Taking Full Profit of the Rheological Properties of SCC—2:50 pm

Geert De Schutter, Full Professor, Magnel Laboratory for Concrete Research, Ghent, Belgium



2 AIA/CE LU

Tuesday, October 21, 2013

3:00 pm - 5:00 pm

Beer Garden—C-301 A&B

Sponsored by  HEADWATERS | MB

Headwaters is sponsoring the Beer Garden in the exhibit hall and invites attendees to stop by for a beer or margarita and learn more about the value Headwaters can bring to your business. Schedule a private and confidential appointment at the convention by contacting Charlotte Franson at cfranson@headwatersmb.com.

Tuesday, October 22, 2013

4:00 pm - 6:00 pm

Blast Blind Predict of Response of Concrete Slabs Subjected to Blast Loading—C-212 B

Sponsored by ACI Committees 370, Blast and Impact Load Effects, and Joint ACI-ASCE Committee 447, Finite Elements Analysis of Reinforced Concrete Structures

Moderator: Ganesh Thiagarajan
Professor
University of Missouri-Kansas City
Kansas City, MO

The objective of this blind simulation contest is to compare differences between single degree of freedom (SDOF) and finite element modeling approaches, highlight the efficacy of available material models, and promote the development of material models that can predict the response of reinforced concrete structures subjected to highly dynamic loading such as blast. Several factors contribute to the prediction of the response of a structure when subjected to shock/blast loading. These factors include boundary conditions; complexity of material properties available; and material models used and finite element parameters, such as element type selection, mesh size sensitivity, and material model rate effects. There are a number of concrete material models developed by several researchers over the past few decades for both static and dynamic loading and the primary objective of this contest is to evaluate their effectiveness under blast/shock loading.

By attending this session, attendees will be able to:

1. Demonstrate how to experimentally and numerically study the blast response of concrete slabs and structures;
2. Recognize commonly used simple and advanced modeling techniques to study the blast response of concrete structures;
3. Explain the SDOF methods and advanced finite element methods used in analyzing blast loading on structures; and
4. Specify emerging technologies in analyzing structures subjected to blast loading.

2012 Blast Blind Prediction Results—Overview of Methods Used and Observations—4:00 pm

Ganesh Thiagarajan, Assistant Professor C/E, University of Missouri-Kansas City, Kansas City, MO

Blast Response of Reinforced Concrete Panels—SDOF and Finite Element Study—4:20 pm

Taraka Ravi Shankar Mullapudi, PhD Candidate, MMI Engineering, Houston, TX; and **Yavuz Menten**, MMI Engineering Inx

Blind Blast Simulation—A Validation Effort Assessment—4:40 pm

Leonard E. Schwer, Consultant, Schwer Engineering and Consulting Services, Windsor, CA

Blind Simulation of Blast-Loaded Slabs Using RC Blast Software—5:00 pm

Eric Jacques, Graduate Research Assistant, University of Ottawa, Ottawa, ON, Canada; and **Murat Saatcioglu** and **Alan Lloyd**, University of Ottawa

SDOF and HYDROCODE Simulations of Blast-Loaded Concrete Slabs—5:20 pm

Tarek H. Kewaisy, Associate, Ammann & Whitney, Washington, DC

Prediction of Response of Reinforced Concrete Slabs Using Finite Element Methods—5:40 pm

Pierluigi Olmati, PhD Student, Sapienza University of Rome, Rome, Italy; **Franco Bontempi**, Sapienza University of Rome; and **Clay J. Naito** and **Patrick Trasborg**, Lehigh University



2 AIA/CE LU

Tuesday, October 22, 2013

4:00 pm - 6:00 pm

Contractors' Day Session: Lean Construction Principles and Scheduling—C-207

Sponsored by the ACI Arizona Chapter

Moderator: **James Rogers**
Director of Certification Programs
ACI Arizona Chapter
Mesa, AZ

The principles of lean productivity have been proven highly effective within the manufacturing industry. Come learn about the push to adopt these principles within the construction industry, why we should care, and how it affects the way we, as contractors, approach scheduling and productivity.

By attending this session, attendees will be able to:

1. Describe the concept of Lean Productivity;
2. Explain the applicability of Lean to the construction industry;
3. Evaluate the impact that Lean principles can have on construction productivity; and
4. Discuss the effects that Lean methods can have on subcontractors' scheduling practices.

What is Lean Productivity and How Does It Apply to Construction?—4:00 pm

James Rogers, Director of Certification Programs, Arizona Chapter ACI, Mesa, AZ

Shifting the Scheduling Paradigm—4:30 pm

Low Laws, Senior Project Manager, DPR Construction, Phoenix, AZ

Lean Construction and the Concrete Sub-Contractor—5:00 pm

Derek Wright, Vice President, Suntec Concrete, Phoenix, AZ

Lean Rebar Design and Delivery: Successes and Challenges—5:30 pm

Kristen Parrish, Assistant Professor, Arizona State University, Phoenix, AZ



2 AIA/CE LU

Tuesday, October 22, 2013

4:00 pm - 6:00 pm

I'm Cured! What's New in Curing Concrete? Part 2 of 2—C-212 A

Sponsored by ACI Committee 308, Curing Concrete

Moderator: Ronald L. Kozikowski
Materials Engineer
North Starr Concrete Consulting
Dover, NH

The session description and learning objectives for this session may be found in the Part 1 listing; see page 123.

Curing of Residential Concrete—4:00 pm

David M. Suchorski, Technical Services Manager, Ash Grove Cement Co, Ankeny, IA

Curing Pervious Concrete—4:30 pm

Dale Fisher, Executive Director, NPCPA, Saint John, VI

Internal Curing Report—5:00 pm

Erik Holck, Materials Lab Manager, Denver Water, Denver, CO

Updated Curing Specification and Guide—5:30 pm

Lawrence Homer Taber, Structural Engineer, Black & Veatch, Overland Park, KS



2 AIA/CE LU

Tuesday, October 22, 2013

4:00 pm - 6:00 pm

Open Paper Session, Part 2 of 2—C-211 A

Sponsored by ACI Committee 123, Research and Current Developments

Co-Moderators:

Piotr Paczkowski
Structural Engineer
Parsons Brinckerhoff
Tampa, FL

Eric R. Giannini
Assistant Professor
The University of Alabama
Tuscaloosa, AL

The session description and learning objectives for this session may be found in the Part 1 listing; see page 124.

Experimental and Analytical Investigation of UHPC Pile Splice and Pile-to-Abutment Connections—4:00 pm

Sriram R. Aaleti, Assistant Professor, The University of Alabama, Tuscaloosa, AL; and **Sri Sritharan**, Iowa State University

Model Inelastic Buckling Behavior of Reinforcing Bars—4:20 pm

Serhan Guner, Structural Engineer, Morrison Hershfield Consulting Engineers, Toronto, ON, Canada; **Yildir Akkaya**, Technical University of Istanbul; and **Frank J. Vecchio**, University of Toronto

Asymmetric Shear Friction Testing: Results and Application—4:40 pm

Catherine G. Hovell, Bridge Designer, T.Y. Lin International, Olympia, WA; **Alejandro Avendaño**, Technological University of Panama; and **Oguzhan Bayrak** and **James O. Jirsa**, The University of Texas at Austin

Overnight Replacement of the Skagit River Collapsed Span—5:00 pm

Christopher Vanek, Structural Engineer, Parsons Brinckerhoff, Tampa, FL; and **Victor Ryzhikov**, **Charles Rudie**, and **John Poulson**, Parsons Brinckerhoff

Bearing Strength of Nodes Confined by Fiber-Reinforced Concrete—5:20 pm

Tanner Wytroval, Structural Engineer, Caruso Turley Scott Inc., Flagstaff, AZ; and **Robin Tuchscherer**, Northern Arizona University

Incorporating the Crumbed Rubber and Ground Brick to Mitigate Alkali Silica Reaction (ASR)—5:40 pm

Kaveh Afshinnia, PhD Candidate, Clemson University, Clemson, SC; and **Amir Poursaeed**, Clemson University



2 AIA/CE LU

Tuesday, October 22, 2013

5:30 pm - 6:30 pm

Faculty Network Reception—H-GARDEN TERRACE

Faculty members and students are invited to attend this informal reception. During this time, you will have an opportunity to exchange ideas and network. Light hors d'oeuvres and a cash bar will be available.

Concrete Mixer—ARIZONA SCIENCE CENTER

The ACI Arizona Chapter has a fun-filled evening planned just a short stroll or ride from the convention center at the Arizona Science Center. With so much to do and see, the only question is “Where to begin?” Explore four floors of hands-on exhibits, wander throughout the building tasting savory Southwestern cuisine, and enjoy a cool drink while visiting with friends and peers. You can explore an outdoor water display or venture up to the weather center to experience a simulated monsoon storm indicative of the Arizona desert. Or, if you prefer, enjoy one of two outdoor terraces overlooking downtown Phoenix and possibly see a beautiful sunset! A good time is guaranteed in this beautiful concrete structure.

The Arizona Science Center is a 7- to 10-minute walk from the Hyatt Regency Hotel. Attendees may gather in the Hyatt Regency lobby and begin walking to the Arizona Science Center at 6:15 pm. Several Phoenix Chapter Convention Committee members will be out on the sidewalks directing attendees to the Mixer, so keep an eye out for them! Additionally, a limited number of vehicles will be making trips to the Mixer for those who need assistance.

Wednesday, October 23, 2013**8:30 am - 10:30 am****Cast-in-Place Concrete Pipe Then and Now—H-ELLIS EAST**

Sponsored by ACI Committee 346, Cast-in-Place Pipe

Moderator: Alfred L. Kaufman
Manager Technical Services
Concretex
Walnut Creek, CA

This presentation covers the evolution, durability, cost-effectiveness, and performance of cast-in-place concrete pipe.

By attending this session, attendees will be able to:

1. Demonstrate the design of cast-in-place pipe;
2. Explain the history of cast-in-place pipe and how it developed into today's product;
3. Illustrate construction practices for cast-in-place pipe; and
4. Identify a new method of cast-in-place pipe construction.

Direct Design of Cast-in-Place Pipe—8:30 am

Eric T. Moran, Senior Bridge Engineer, Hatch Mott MacDonald, Orangevale, CA

The History of CIPCP—9:00 am

Gordon Bluth, President, Blucor Contracting Inc., Queen Creek, AZ

Ray Road Improvements—9:30 am

Benan Zahawi, Professional Engineer, Stantec Consulting, Mesa, AZ

Two Stage CIPCP 138 Inch Diameter in Saltillo, Mexico—10:00 am

Carlos Moreira, Civil Engineer, Hidraulica Ambiental, Monterrey, NL, Mexico



Cracking the ASR Mystery, Part 1 of 2—H-PHOENIX WEST

Sponsored by ACI Committees 221, Aggregates and E702, Designing Concrete Structures

Moderator: Bryan R. Castles
Senior Materials Engineer
Western Technologies Inc.
Phoenix, AZ

Attendees will hear a brief history of alkali-silica reactivity (ASR), the causes and effects of ASR, and how to avoid or mitigate the potential of adverse ASR in your projects. Topics will include current testing methods to evaluate aggregate sources, current testing methods to evaluate mitigation methods, how to interpret test results, and what is happening with current research. By attending these sessions, attendees will be able to:

1. Understand ASR and recognize the presence of ASR in existing structures;
2. Explain the benefits and limitations of test methods currently used and currently being developed to evaluate aggregates and concrete mixtures for potentially deleterious ASR expansion;
3. Understand and recognize what is currently being specified by various agencies to evaluate ASR; and
4. Understand and specify methods currently being used to mitigate harmful ASR cracking and expansion.

What is ASR—History and Basic Understanding—8:30 am

Michael D. A. Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada

What If My Aggregate is Reactive? Mitigating Harmful Expansion—9:00 am

R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada

Test Methods to Evaluate Aggregates: Examples with Aggregates from the Phoenix Area—9:30 am

David B. Stokes, Consultant, Durable Concrete, Shelby, NC

Current Specifications for Aggregate Qualifications—10:00 am

Katie J. Bartojay, Civil Engineer, United States Bureau of Reclamation, Denver, CO



2 AIA/CE LU

Performance-Based Seismic Design: Lessons Learned from Recent Earthquakes, Part 1 of 2—H-PHOENIX EAST

Sponsored by ACI Committee 374, Performance-Based Seismic Design of Concrete Buildings

Co-Moderators: Jeffrey J. Dragovich
Structural Engineer
Shoreline, WA

Insung Kim
Structural Engineer
Degenkolb Engineers
San Francisco, CA

In the past decade, several major earthquakes have affected reinforced concrete structures around the world. Researchers who have studied the performance of these structures have started to apply the lessons learned to seismic design provisions and analysis methods for both new construction and retrofit of existing structures. In these sessions, presenters will describe the implications of recent earthquakes on the theory and practice of performance-based seismic design for reinforced concrete buildings.

By attending this session, attendees will be able to:

1. Recognize the structural wall configurations and details that may exhibit undesirable seismic performance;
2. Describe the structural attributes that may precipitate buckling of slender walls;
3. Explain the impact of recent earthquakes on the assessment of expected performance levels and targets in building codes; and
4. Summarize the performance of precast concrete buildings in recent earthquakes and the implications for precast concrete diaphragm design.

Observed Wall Performance and Implications for the Seismic Provisions of ACI 318—8:30 am

John W. Wallace, Associate Professor, University of California, Los Angeles, Los Angeles, CA

The Observed Performance of Walls and Walled Buildings and Recommendations for Design—9:00 am

Laura N. Lowes, Associate Professor, University of Washington, Seattle, WA; and **Dawn E. Lehman**, University of Washington

Buckling of Slender Wall Boundaries—9:30 am

Jack P. Moehle, Professor, University of California-Berkeley, Berkeley, CA

Impacts of the 2010 Chile Earthquake: NIST Sponsored Research—10:00 am

Steven L. McCabe, NEHRP Deputy Director, National Institute of Standards and Technology; **Travis Welt**, University of Illinois-Urbana; and **Dawn E. Lehman**, University of Washington



2 AIA/CE LU

Wednesday, October 23, 2013

8:30 am - 10:30 am

UHPC Innovations for Durability and Resiliency—H-ELLIS WEST

Sponsored by ACI Committee 239, Ultra-High Performance Concrete

Moderator:

Kay Wille
Assistant Professor
University of Connecticut
Storrs, CT

As North America implements ultra-high-performance concrete (UHPC) into our civil infrastructure, lessons can be learned from applications worldwide. UHPCs can be mixed with readily available materials and characterized at the material level for durability, toughness, and ductility. The relatively new material can improve resiliency to the system on a higher level than

seen before with concretes. This session will give an overview about the superior durability performance of UHPC in comparison to normal-strength concrete; present innovative applications for the use of UHPC for long-term solutions; and provide innovation solutions to further improve its durability in the cracked state, such as self-healing UHPC. Enhanced long-term durability and resiliency of UHPC will directly address the current issues of the U.S. infrastructure.

Sharing academic knowledge and practical experiences about UHPC and spreading the information will facilitate the acceptance and application of the material in U.S. construction. This session fits naturally into the convention theme “Innovation in Conservation.” Speakers have been selected to cover academic research, on-site experiences, material properties, and structural performances from the U.S. and countries overseas.

By attending this session, attendees will be able to:

1. Learn about UHPC material properties and durability characteristics;
2. Recognize the long-term performance and resiliency of UHPC structures;
3. Learn about innovations to enhance the durability and link laboratory investigations with on-site applications; and
4. Realize the importance of durability and resiliency of construction materials for our infrastructure.

Durability of a Steel Fiber-Reinforced UHPC—8:30 am

Benjamin Graybeal, Research Structural Engineer, Federal Highway Administration, McLean, VA

Miami Arts Museum, Florida—UHPC Mullions Designed for Hurricane Forces—8:50 am

Vic Perry, Professional Engineer, Lafarge North America Inc., Calgary, AB, Canada

Self-Healing Ultra-High Performance Fiber Reinforced Concrete—9:10 am

Liberato Ferrara, Assistant Professor, Politecnico di Milano, Milano, Italy

UHPC Troughs for a Wastewater Treatment Plant—The Goldbar Wastewater Treatment Plant Expansion, Edmonton, Alberta—9:30 am

Vic Perry, Professional Engineer, Lafarge North America Inc., Calgary, AB, Canada; and **Don Zakariassen**, Lafarge Canada

Retrofit of Civil Works Infrastructure with Ultra-High-Performance Concrete for Improved Resiliency—9:50 am

Robert Moser, Research Civil Engineer, U.S. Army Engineer, Research, and Development Center, Vicksburg, MS; and **Brian H. Green**, U.S. Army Engineer, Research, and Development Center



2 AIA/CE LU

Wednesday, October 23, 2013

10:30 am - 2:30 pm

✓ ***A Taste of Old Town Scottsdale—H-Depart north lobby doors on Monroe Street***
\$102.00 U.S. per person

Old Town Scottsdale takes you into the past—to a time when Scottsdale youth were taught to read and write in a Little Red School house that also housed the town meetings and church services; when residents and visitors would stop by the Sugar Bowl for both general store purchases and automotive services; and when blacksmiths, saloons, and Western wear clothing stores lined the dusty roads. This tour allows you to experience Old Town with all five senses, as you'll even have an opportunity to sample food and beverages that were, are, and always will be favorites of Old Town Scottsdale.

Tour tickets may be purchased up to 24 hours prior to the event, based on availability. Tours are nonrefundable. All tours depart from the north lobby doors of the Hyatt Regency on Monroe Street.

✓ = Separate fee required

Wednesday, October 23, 2013

11:00 am - 1:00 pm

Bio-Inspired Construction Materials—H-ELLIS EAST

Sponsored by ACI Committee 236, Material Science of Concrete

Co-Moderators:

Paramita Mondal

Assistant Professor

University of Illinois at Urbana-Champaign

Urbana, IL

Kejin Wang

Professor

Iowa State University

Ames, IA

Unlike man-made materials, natural materials can interact with the surrounding environment, protect themselves from it, and heal autonomously when damage occurs. Inspired by such properties of natural materials, research on the development of innovative and novel construction materials is underway and will be presented in this session.

By attending this session, attendees will be able to:

1. Recognize the new and exciting research and development on bio-inspired construction materials;
2. Appreciate the potential of bio-inspired construction materials;
3. Understand the achievements so far in developing bio-inspired construction materials and challenges being faced; and
4. Explain the benefit of bio-inspired design over conventional design of materials.

Bio-Inspired Solutions for Durable Concrete and Stone Structures: Bioconsolidation and Microbial Self-Healing—11:00 am

Nele De Belie, Professor, Ghent University/Magnel Lab, Ghent, Belgium

Bacterial Concrete: Metabolic State of *S. Pasteurii* in Cement-Based Material—11:30 am

Zeynep Basaran, Student, University of Texas, Austin, TX; and Raissa P. Ferron, University of Texas

Cement Paste as a Source of Ca For Biominalization—11:50 am

Paramita Mondal, PhD/Assistant Professor, University of Illinois at Urbana-Champaign, Urbana, IL

Development of Bacteria-Based Self-Healing Concrete: Limestone-Producing Bacteria Incorporated in Concrete Reduce Matrix Permeability—12:10 pm

Virginie Wiktor, Research Scientist, Delft University of Technology, Delft, the Netherlands

Biodeposition Kinetics of Sporosarcina Pasteurii—12:30 pm

Charles Marsh, Materials Engineer, United States Army Construction Engineering Research Laboratory, Champaign, IL

Self-Healing Capacity of Advanced Cement-Based Materials—12:45 pm

Liberato Ferrara, Assistant Professor, Politecnico di Milano, Milano, Italy



2 AIA/CE LU

Wednesday, October 23, 2013

11:00 am - 1:00 pm

Cracking the ASR Mystery, Part 2 of 2—H-PHOENIX WEST

Sponsored by ACI Committees 221, Aggregates, and E702, Designing Concrete Structures

Co-Moderators:

Bryan R. Castles
Senior Materials Engineer
Western Technologies Inc.
Phoenix, AZ

Luke M. Snell
Senior Materials Engineer
Western Technologies Inc
Tempe, AZ

The session description and learning objectives for this session may be found in the Part 1 listing; see page 131.

Update on the Miniature Concrete Prism Test—11:00 am

Prasad R. Rangaraju, Assistant Professor, Clemson University, Clemson, SC

Identifying Adverse ASR Reaction in Existing Structures—11:30 am

Benoit Fournier, Professor, Laval University, Quebec, QC, Canada

A Closer Look—Petrography and ASR—12:00 pm

Christine Tillema, Senior Petrographer, Braun Intertec Corporation, Tecumseh, MI

The Role and Future of Pozzolans in ASR Mitigation—12:30 pm

Thomas H. Adams, Executive Director, American Coal Ash Association, Farmington Hills, MI



2 AIA/CE LU

Wednesday, October 23, 2013

11:00 am - 1:00 pm

Performance-Based Seismic Design: Lessons Learned from Recent Earthquakes, Part 2 of 2—H-PHOENIX EAST

Sponsored by ACI Committee 374, Performance-Based Seismic Design of Concrete Buildings

Co-Moderators: Jeffrey J. Dragovich
Structural Engineer
Shoreline, WA

Insung Kim
Structural Engineer
Degenkolb Engineers
San Francisco, CA

The session description and learning objectives for this session may be found in the Part 1 listing; see page 131.

Performance Targets for Seismic Design—11:00 am

James R. Harris, Principal, J R Harris & Company, Denver, CO

Christchurch Earthquake and Aftermath—Impacts on Codes and Standards—11:30 am

Kenneth J. Elwood, Associate Professor, University of British Columbia, Vancouver, BC, Canada

Performance of Precast Concrete Buildings in the 2010 Chilean Earthquake—12:00 pm

Satyendra Ghosh, President, SK Ghosh Associates Inc., Palatine, IL

Performance-Based Seismic Design Methodology for Precast Concrete Diaphragms—12:30 pm

Ned M. Cleland, President, Blue Ridge Design Inc., Winchester, VA



2 AIA/CE LU

Thursday, October 24, 2013

8:00 am - 5:00 pm

✓ New! ACI Step-by-Step Design of Reinforced Concrete Buildings Up to Five Floors Seminar—H-CURTIS A

7:45 am Registration; coffee and pastries available

\$597 Nonmember registration fee

\$457 ACI National Member registration fee

\$125 Full-time students (with proof of enrollment)

Speakers: Luis E. García
Partner/President
Projects and Designs Ltd.
Bogota, Colombia

José M. Izquierdo-Encarnación
Principal
Porticus
San Juan, Puerto Rico

This is a 1-day seminar for design professionals. ACI 314R-11, “Guide to Simplified Design for Reinforced Concrete Buildings,” is a simplified method and educational tool intended to facilitate the engineering of low-rise buildings within certain limitations. Both the document and seminar present information in a way that follows typical design processes, with procedures introduced as the designer will need them in the course of a building design. The information presented was derived from ACI 318-11, ASCE 7-10, and IBC 2009; it will be introduced in the morning session of the seminar. During the afternoon session, a building design example will be presented that illustrates the use of the guide.

✓ = **Separate fee required**

Session Attendance Tracking Form for the ACI Fall 2013 Convention

Phoenix, AZ
October 20-24, 2013

Use this form to track your attendance at ACI sessions. This form may be accepted by state boards that allow self-reporting of continuing education activities as evidence of participation. In most cases, 1 contact hour is equal to 1 Professional Development Hour (PDH). Check with your state board for acceptance criteria.

Instructions: Fill in your name, e-mail address, and telephone number below. Check off each session you attend. If a state where you are licensed requires a certificate of attendance, please record the three PDH codes given throughout each session in the boxes provided. You must attend the entire session and sign this form to receive your certificate(s). After you have attended your final session, submit this form to the registration desk located in C-301 A&B at the Phoenix Convention Center. You may also fax this form to ACI at 248-848-3792, or e-mail it to Mike Tholen (mike.tholen@concrete.org).

Name (please print): _____

By my signature, I attest that I have attended the entire duration of each of the sessions indicated on this form: _____ (signature)

E-mail address (please print): _____

Telephone number: _____

If you are a licensed Professional Engineer in Florida and would like ACI to report your hours to the Florida state board or you are an Architect and would like ACI to report your hours to AIA, please provide your license number below.

Florida PE No.: _____

Architecture license No.: _____

Saturday, October 19, 2013 1:00 PM-5:00 PM

- Concrete Sustainability Forum VI

4 PDH

Three PDH Codes for
the selected session:

Sunday, October 20, 2013

1:00 PM-3:00 PM (Select one session)

- Advancements in Concrete Pavements (325)
 Conservation of Historic Concrete, Part 1 of 2 (364)
 Fiber-Reinforced Concrete for Sustainable Structures,
Part 1 of 2 (130/544/544F/549)
 Structural Concrete Design – The Legacy of Dr. W. Gene
Corley, Part 1 of 2 (318)

2 PDH

Sunday, October 20, 2013 cont.

3:30 PM-5:30 PM (Select one session) 2 PDH

- Conservation of Historic Concrete, Part 2 of 2 (364)
- Emerging Technologies in Civil Infrastructure Application (SDC)
- Fiber-Reinforced Concrete for Sustainable Structures, Part 2 of 2 (130/544/544F/549)
- Structural Concrete Design – The Legacy of Dr. W. Gene Corley, Part 2 of 2 (318)

Three PDH Codes for the selected session:

8:00 PM-10:00 PM 2 PDH

- Hot Topic Session: High-Strength Reinforcing Bars—Balancing Design Requirements with Achievable Material Properties (HTC/CRSI/ Charles Pankow Foundation)

Monday, October 21, 2013

8:30 AM-10:30 AM (Select one session) 2 PDH

- Concrete with Recycled Materials, Part 1 of 3 (555)
- Electrical Methods to Characterize and Monitor Concrete, Part 1 of 2 (222/228/444)
- Innovative Design and Construction in Concrete Columns, Part 1 of 2 (441)
- No Need to Doubt, When You Grout: Advances in Cementitious Grouting, Materials, and Applications, Part 1 of 2 (552)
- Research in Progress, Part 1 of 2 (123)

11:00 AM-1:00 PM (Select one session) 2 PDH

- Concrete with Recycled Materials, Part 2 of 3 (555)
- No Need to Doubt, When You Grout: Advances in Cementitious Grouting, Materials, and Applications, Part 2 of 2 (552)
- Research in Progress, Part 2 of 2 (123)
- The Role of Silica Fume in the Conservation of Resources, Part 1 of 2 (234/Arizona Chapter)

1:30 PM-3:30 PM (Select one session) 2 PDH

- Concrete with Recycled Materials, Part 3 of 3 (555)
- Electrical Methods to Characterize and Monitor Concrete, Part 2 of 2 (222/228/444)
- Innovative Design and Construction in Concrete Columns, Part 2 of 2 (441)
- The Role of Silica Fume in the Conservation of Resources, Part 2 of 2 (234/Arizona Chapter)

Monday, October 21, 2013 cont.

4:00 PM-6:00 PM (Select one session) 2 PDH

- A Fresh Look at Cementitious Materials and Admixtures (E701)
- Design Detailing to Mitigate Cracking (224)
- Laboratory Test Methods for Corrosion Assessment: Technical Review and Practical Implications, Part 1 of 2 (222)
- Recent Advances on Soil-Foundation-Structure Interaction in Seismic Bridge Design (341)

Three PDH Codes for the selected session:

6:30 PM-8:30 PM 2 PDH

- 123 Forum (123): Can Cement Specifications Be Used to Reduce Cracking in Concrete?

Tuesday, October 22, 2013

8:30 AM-10:30 AM (Select one session) 2 PDH

- Contractors' Day Session: Help I'm Being Sued! (Arizona Chapter)
- Design and Construction of Durable Concrete Parking Structures, Part 1 of 2 (362)
- Innovation in Cooling Mass Concrete (207/231)
- Laboratory Test Methods for Corrosion Assessment: Technical Review and Practical Implications, Part 2 of 2 (222)

11:00 AM-1:00 PM (Select one session) 2 PDH

- Admixtures for SCC (212/237)
- Design and Construction of Durable Concrete Parking Structures, Part 2 of 2 (362)
- Sustainable Solutions for Seismic Repair of Bridges (341)
- Tablets in the Workplace (118)

1:30 PM-3:30 PM (Select one session) 2 PDH

- Contractors' Day Session: Economic Forecast for the Concrete Industry (Arizona Chapter)
- I'm Cured! What's New in Curing Concrete?, Part 1 of 2 (308)
- Open Paper Session, Part 1 of 2 (123)
- Workability of Sustainable Concrete (130B/238)

4:00 PM-6:00 PM (Select one session) 2 PDH

- Blast Blind Predict of Response of Concrete Slabs Subjected to Blast Loading (370/447)
- Contractors' Day Session: Lean Construction Principles and Scheduling (Arizona Chapter)
- I'm Cured! What's New in Curing Concrete?, Part 2 of 2 (308)
- Open Paper Session, Part 2 of 2 (123)

Wednesday, October 23, 2013

8:30 AM-10:30 AM (Select one session)

2 PDH

**Three PDH Codes for
the selected session:**

- Cast-in-Place Concrete Pipe Then and Now (346)
- Cracking the ASR Mystery, Part 1 of 2 (221/E702)
- Performance-Based Seismic Design: Lessons Learned from Recent Earthquakes, Part 1 of 2 (374)
- UHPC Innovations for Durability and Resiliency (239)

11:00 AM-1:00 PM (Select one session)

2 PDH

- Bio-Inspired Construction Materials (236)
- Cracking the ASR Mystery, Part 2 of 2 (221/E702)
- Performance-Based Seismic Design: Lessons Learned from Recent Earthquakes, Part 2 of 2 (374)

Daily PDH Totals:

Total Completed on Saturday, 10/19/13 _____

Total Completed on Sunday, 10/20/13 _____

Total Completed on Monday, 10/21/13 _____

Total Completed on Tuesday, 10/22/13 _____

Total Completed on Wednesday, 10/23/13 _____

Total Number of PDHs Completed _____

Please submit this form to the registration desk, located in C-201 C-D at the Phoenix Convention Center, at the conclusion of the final session you attend. You may also fax this form to ACI at 248-848-3792, or e-mail to Mike Tholen (mike.tholen@concrete.org).

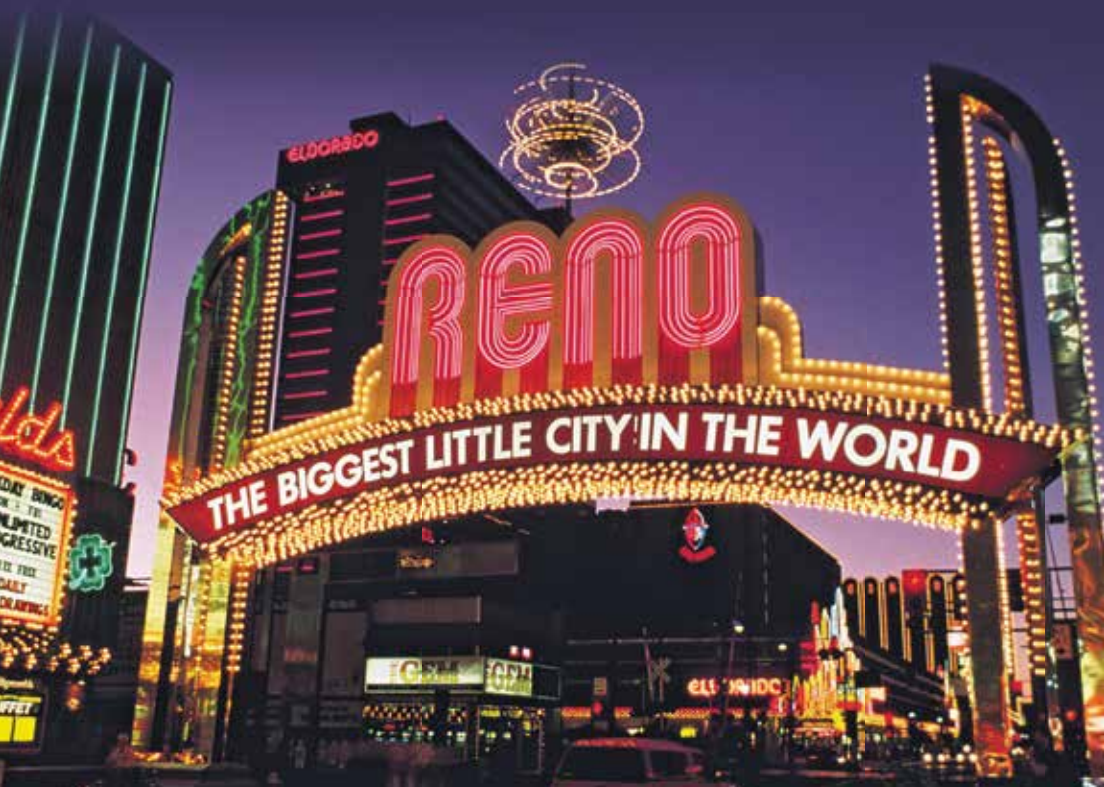
The deadline to submit this form to ACI is November 11, 2013. You will receive your certificate(s) by November 25, 2013. Please ensure you have filled out the correct e-mail address on this form, as that is where your certificate(s) will be sent.

Save the Date



Spring 2014 Convention

March 23-27, 2014 • Grand Sierra Resort • Reno, NV



Thank you for attending the **ACI FALL 2013** Convention

Future ACI Conventions



Spring 2014 **Concrete Endures**

March 23-27, 2014
Grand Sierra Resort
Reno, NV



Fall 2014 **Spanning the Globe**

October 26-30, 2014
Hilton Washington
Washington, DC



Spring 2015 **Fountains of Concrete Knowledge**

April 12-15, 2015
Marriott & Kansas City
Convention Center
Kansas City, MO



American Concrete Institute®
Advancing concrete knowledge

American Concrete Institute
38800 Country Club Drive
Farmington Hills, MI 48331
Phone: 248-848-3700
Fax: 248-848-3701
www.concrete.org