Photo courtesy VISIT DENVER

aci Fall 2015 | Denver

The Concrete Convention and Exposition

Program Book

November 8-12, 2015 | Sheraton Denver Downtown Hotel

Convention Sponsors

Sponsors are listed as of 10/7/15

Aspen Level Sponsors

Vail Level Sponsors

Rocky Mountain Chapter Convention Committee

Committee Co-Chairs
Scott Keim, USBR
Katie Bartojay, USBR

Treasurer
Kit Badger, Bates Engineering

Sponsors and Exhibitors
Brooke Smartz, Holcim (US) Inc.
Bill Palmer, Hanley Wood

Contractors' Day
Kim Basham, KB Engineering
Mike Eads, GH Phipps Construction Companies

Technical Program
David Rothstein, DRP Consulting

Student Program
Bret Robertson, USBR

Social Events
Whitney Belkowitz, Intelligent Concrete

CC Liaison
Dawn Miller, Rocky Mountain Chapter – ACI

Breckenridge Level Sponsors

Bestway Concrete Company
CTL/Thompson, Inc.
Martin/Martin Inc.
Martin Marietta
Metro Mix, LLC
MWH Constructors, Inc.
PCA Rocky Mountain & Northwest Region

Winter Park Level Sponsors

AMSYSCO, Inc.
Carolinas Chapter – ACI
CEMEX
Concrete Frame Associates, LLC
DRP Petrography
Eastern Pennsylvania & Delaware Chapter – ACI
GH Phipps Construction Companies
Greater Michigan Chapter – ACI
Kumar & Associates
Lafarge North America
Northern California/Western Nevada Chapter – ACI
Restruction Corporation
Salt River Materials Group
Trinity Expanded Shale & Clay

Loveland Level Sponsors

Arizona Chapter – ACI
Arkansas Chapter – ACI
Castle Rock Construction Company of Colorado
Central Texas Chapter – ACI
Concrete Industry Board, New York City Chapter – ACI
CR Minerals
Georgia Chapter – ACI
Greater Miami Valle Chapter – ACI
Illinois Chapter – ACI
Intermountain Chapter – ACI
Interstate Highway Construction
Kansas Chapter – ACI
Las Vegas Chapter – ACI
Lillard and Clark
Louisiana Chapter – ACI
Maryland Chapter – ACI
National Capital Chapter – ACI
Nebraska Chapter – ACI
New Jersey Chapter – ACI
New Mexico Chapter – ACI
Northeast Texas Chapter
Ontario Chapter – ACI
Pittsburgh Area Chapter – ACI
San Diego International Chapter – ACI
Southern California Chapter – ACI
The Concrete Industry Board

Eldora Level Sponsors

Bates Engineering, Inc.
Boral Materials Technologies
SDG Incorporated

Beer Garden Sponsors

DRP Consulting, Inc.
Fall Line Testing & Inspection, LLC
Intelligent Concrete
Rocky Mountain Chapter – ACI

Table of Contents

American Concrete Institute Board of Direction

President
Sharon L. Wood

Vice President
Michael J. Schneider
Khaled Awad

Directors
Dean A. Browning
JoAnn P. Browning
Cesar A. Constantino
Alejandro Duran-Herrera
Augusto H. Holmberg
Kimberly Kayler
Cary Kopczynski
Kevin A. MacDonald
Fred Meyer
Michael M. Sprinkel
Roberto Stark
David M. Suchorski

Past Presidents
William E. Rushing Jr.
Anne M. Ellis
James K. Wight

Executive Vice President
Ron Burg

ACI President's Welcome

ACI Members and Guests:

It is my great pleasure to welcome everyone to the beautiful city of Denver and to The Concrete Convention and Exposition. This convention will focus on the theme of "Constructability," which influences all aspects of concrete technology. With over 50 technical sessions, attendees will learn about a variety of issues related to constructability. You will have the opportunity to participate in the development of industry codes and standards, network with many of the world's leading concrete professionals, and learn about the latest in concrete technology while fulfilling your continuing education requirements. With so many different opportunities, I encourage each of you to make the most out of your experience here in Denver.

I am thrilled to be participating in the inaugural Excellence in Concrete Construction Awards Gala. This is ACI's first project-based awards program, honoring those who are at the forefront of concrete innovation and technology. I hope you can join me in celebrating the accomplishments of the honorees.

I would like to express my sincerest thanks to the Rocky Mountain Chapter – ACI for their outstanding efforts in creating a successful convention. Please join me in thanking them by stopping by the host chapter desk during your time at the convention.

It is an honor to be here and to share this week with you. I hope you enjoy the convention and all that Denver has to offer. Thank you for attending the convention and for your continued involvement with ACI.

Kind Regards,

Sharon L. Wood
ACI President

ACI Sustaining Members

ACS Manufacturing Corporation

Advanced Construction Technology Service

American Society of Concrete Contractors

Baker Concrete Construction, Inc.

Barrier-1 Inc.

BASF Corporation

Bauman Landscape & Construction

BCS

Braun Intertec Corporation

Buzzi Unicem USA

Cantera Concrete Company

CHRYSO, Inc.

Concrete Reinforcing Steel Institute

Construction Forms Inc.

CTLGroup

Dayton Superior

Ductilcrete Slab Systems, LLC

The Euclid Chemical Co.

Fibercon International, Inc.

Future Tech Consultants

W.R. Grace & Co.

Headwaters Resources, Inc.

Holcim (US) Inc.

Keystone Structural Concrete, LLC

Kleinfelder

Kryton

Lafarge North America

Lithko Contracting, Inc.

Mapei

Meadow Burke

W. R. Meadows, Inc.

Metromont Corporation

MTL

Multiquip

Municipal Testing

North S.Tarr Concrete Consulting PC

Oztec Industries, Inc.

Pacific Structures

Penetron International Ltd.

Portland Cement Association

Precast/Prestressed Concrete Institute

Saudi Building Code National Committee

Sika Corp.

STRUCTURAL

Structural Services, Inc.

Tekna Chem

Triad Engineering, Inc.

TWC Concrete Services

Wacker Neuson

General Information

ACI Registration—PLAZA EXHIBIT HALL

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

Saturday	2:00 pm – 6:00 pm
Sunday – Tuesday	7:30 am – 5:00 pm
Wednesday	8:00 am – 12:00 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!

Convention App

Download The Concrete Convention and Exposition App and have all the information you need for the week ahead at your fingertips. Updated schedules, speaker handouts, exhibitor and sponsor information, and more are all available through the app. Search **"ACI Conv"** on your Apple or Android device. This is the same app that was used in at the Spring 2015 ACI Convention, so if you have it already, you don't have to download anything!

Schedule Changes

Cancellations, additions, and location changes to the convention schedule will be posted daily on a monitor in the exhibit area, as well as in the convention app. Printed Program Book erratas will be available at ACI Registration.

Emergencies

In the event of an emergency, we kindly request that you do NOT dial 9-1-1. Please pick up the nearest house phone and you'll be connected directly to the hotel operator. They can dispatch security to your location.

Photographs/Videos

ACI will take photographs and video during the ACI 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 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.

Exhibit Hall Refreshments—PLAZA EXHIBIT HALL

Beverages are available courtesy of ACI during the following hours:

Saturday	Soda	2:00 pm – 6:00 pm
Sunday – Wednesday	Coffee	7:00 am – 10:00 am
Sunday – Tuesday	Soda	1:00 pm – 4:00 pm

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 Denver, CO, is 21.

ACI Bookstore—PLAZA EXHIBIT HALL

Visit the ACI Bookstore to receive 10% off ACI publication. The ACI Bookstore is open during the following hours:

Saturday	2:00 pm – 6:00 pm
Sunday – Tuesday	8:00 am – 5:00 pm
Wednesday	8:00 am – 12:00 pm

ACI Resource Pavilion—PLAZA EXHIBIT HALL

ACI has many resources to offer convention attendees, and now they are all available in one central location! The ACI Resource Pavilion will feature the Cyber Café as well as an information center for ACI services such as ACI Continuing Education and the ACI Foundation. Stop by the pavilion in the exhibit area to learn about all that ACI has to offer during the following hours:

Saturday	2:00 pm – 6:00 pm
Sunday – Tuesday	8:00 am – 5:00 pm
Wednesday	8:00 am – 12:00 pm

ACI Continuing Education—With the tagline "Always Advancing," ACI is committed to the education of its members and customers. Stop by to learn about the current initiatives and programs offered to continue the growth and expertise of the industry.

ACI Foundation—The ACI Foundation receives, administers, and expends funds for educational, research, and scientific purposes to increase knowledge and understanding of concrete materials and to support programs that improve concrete design and construction.

Cyber Café—Several computers will be available for attendees to use to browse the web, print on-demand, and catch up on e-mail. A charging station will also be available.

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

Career Center—PLAZA EXHIBIT HALL

ACI's online job search engine is specifically designed to target jobs in the concrete industry. Browse the job postings or post a new job right at the convention! Companies will also have a place to drop off flyers about current job openings.

Membership Information—PLAZA EXHIBIT HALL

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

General Information

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 attended. If you do not find a handout for a particular session, please contact the speaker for more information. Handouts are posted following the conclusion of the session.

Local Information—PLAZA EXHIBIT HALL

The Rocky Mountain Chapter Convention Committee members will be happy to answer general convention questions and provide information about the local area. Stop by the information desk during the following hours:

Saturday	2:00 pm – 5:00 pm
Sunday – Tuesday	8:00 am – 5:00 pm

Sheraton Denver Restaurants

15 | Fifty Restaurant

Enjoy the daily breakfast buffet or experience the signature Colorado creations for dinner. Hours of operation: 6:00 am – 11:00 am and 4:00 pm – 10:00 pm daily.

16Mix

Open for lunch and dinner, this lobby bar and restaurant offers cocktails and a light dinner fare in a casual environment. Hours of operation: 11:00 am – 2:00 am daily.

Peet's Coffee & Tea

Located in the lobby of the Sheraton, Peet's Coffee & Tea offers a selection of hot or cold beverages, along with a quick snack or light lunch. Hours of operation: 6:00 am – 4:00 pm daily.

Yard House

This upscale eatery provides lunch and dinner options. Hours of operation: Sunday – Thursday, 11:00 am – 12:00 am; Friday – Saturday, 11:00 am – 1:00 am.

Katie Mullen's Irish Restaurant & Pub

With a mix of Irish and American cuisine, Katie Mullen's provides the ideal setting for all occasions. Hours of operation: Sunday – Thursday, 11:00 am – 9:00 pm; Friday – Saturday, 11:00 am – 10:00 pm.

Zoup!

Zoup! Denver features hundreds of award-winning soup recipes with 12 rotating daily varieties. Hours of operation: Monday – Saturday, 11:00 am – 6:00 pm; Sunday, 11:00 am – 4:00 pm.

Room Service

Room service is available at the Sheraton Denver Downtown 6:00 am – 12:00 am daily. A limited menu is available 12:00 am – 6:00 am.

Transportation

The Denver International Airport (DEN) is the closest airport to the Sheraton Denver Downtown Hotel. The Sheraton is located approximately 25 miles from the airport.

Shuttle Service

SuperShuttle offers ground transportation from the Denver International Airport. This shared van ride service is a cost-efficient door-to-door transportation option and a safe way of getting to and from the Sheraton. To reserve a shuttle or to learn more about the services offered by SuperShuttle, visit **www.supershuttle.com.**

Rental Cars

Hertz is the official car rental agency for the ACI convention. Receive discounts on upgrades, weekly rentals, and weekend rentals. To make advanced reservations, call +1.800.654.3131 or visit **www.hertz.com**. Provide group code 0077289 when making your reservation. Additionally, all major car rental companies have an office at the airport.

Taxis

There are several taxi services available in Denver to help get you to and from the airport, as well as the many attractions, restaurants, and other destinations in the area. Taxis are stationed outside of the Sheraton and the valet and bellhop are available to assist in calling a taxi for you.

Public Transportation

Denver offers several alternatives to taxis throughout the city. The 16th Street Shuttle, which runs right by the Sheraton, is a free bus that passes by many shopping and restaurant options. There is a bicycle sharing system available throughout Denver. The daily rate is $9 for 24 hours. Additionally, there is a light rail and bus transportation all around Denver. Visit **http://www.rtd-denver.com/index.shtml** to see the schedules.

Parking

Self-parking is available at the Sheraton for $34 U.S. per day. Valet parking is also available for $42 U.S. per day.

Continuing Education

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

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. Please note that the process for obtaining a certificate has changed. See the botom of the session attendance tracking form for insturctions.
Please note: ACI does not track and cannot provide documentation confirming attendee participation or attendance at any ACI session held during the convention.

Speaker Ready Room—GOVERNOR'S SQUARE 9

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

Saturday	2:00 pm – 6:00 pm
Sunday – Tuesday	7:00 am – 6:00 pm
Wednesday	7:00 am – 2:00 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 uploaded onto the ACI website.

The Concrete Convention and Exposition

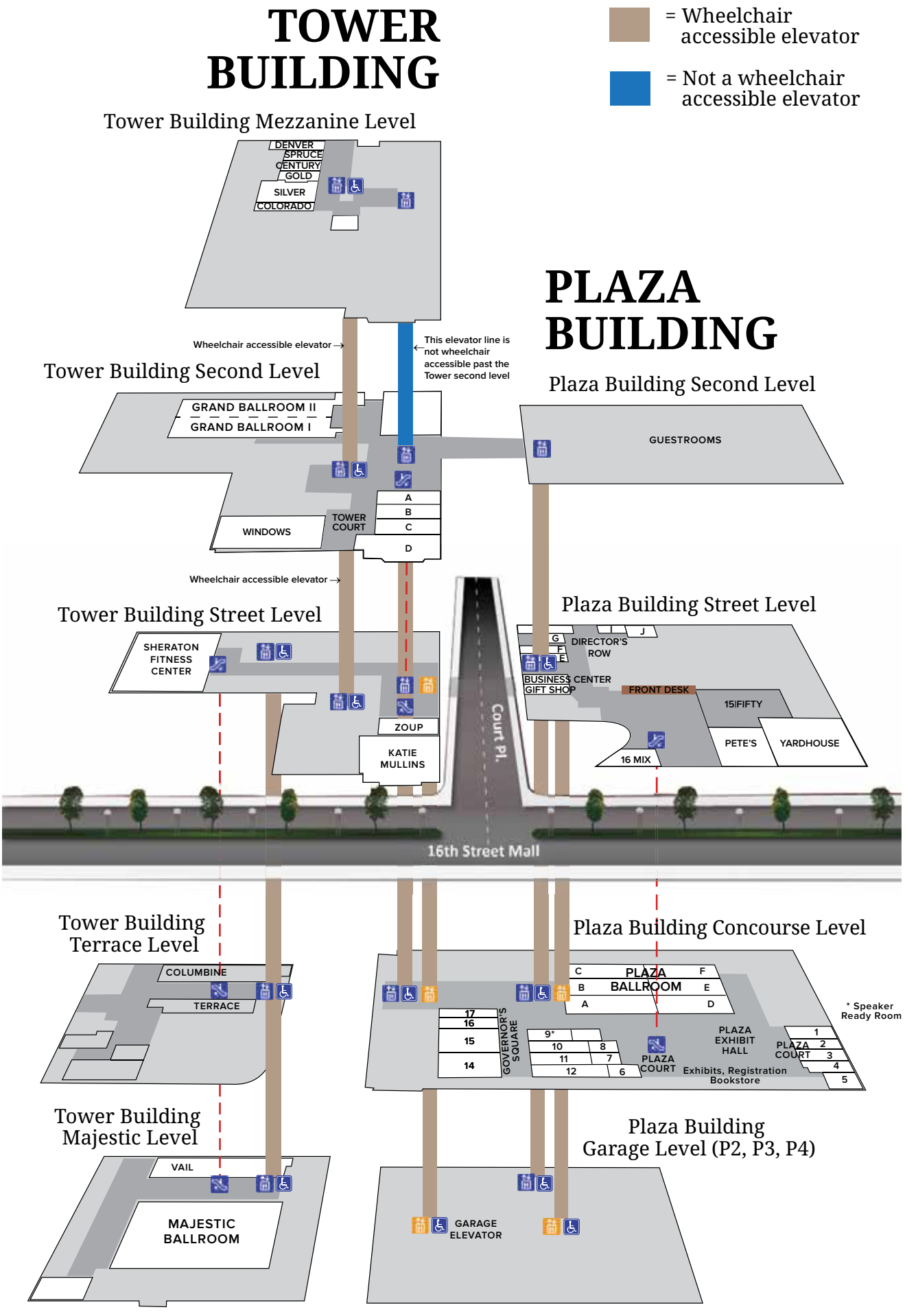
Spring 2016 | Milwaukee, WI—PLAZA EXHIBIT HALL

Mark your calendars for The Concrete Convention and Exposition in Milwaukee, WI, April 17-21, 2016, at the Hyatt & Wisconsin Center. Stop by the Wisconsin Chapter Convention Committee Desk Saturday through Tuesday to learn more about the convention!

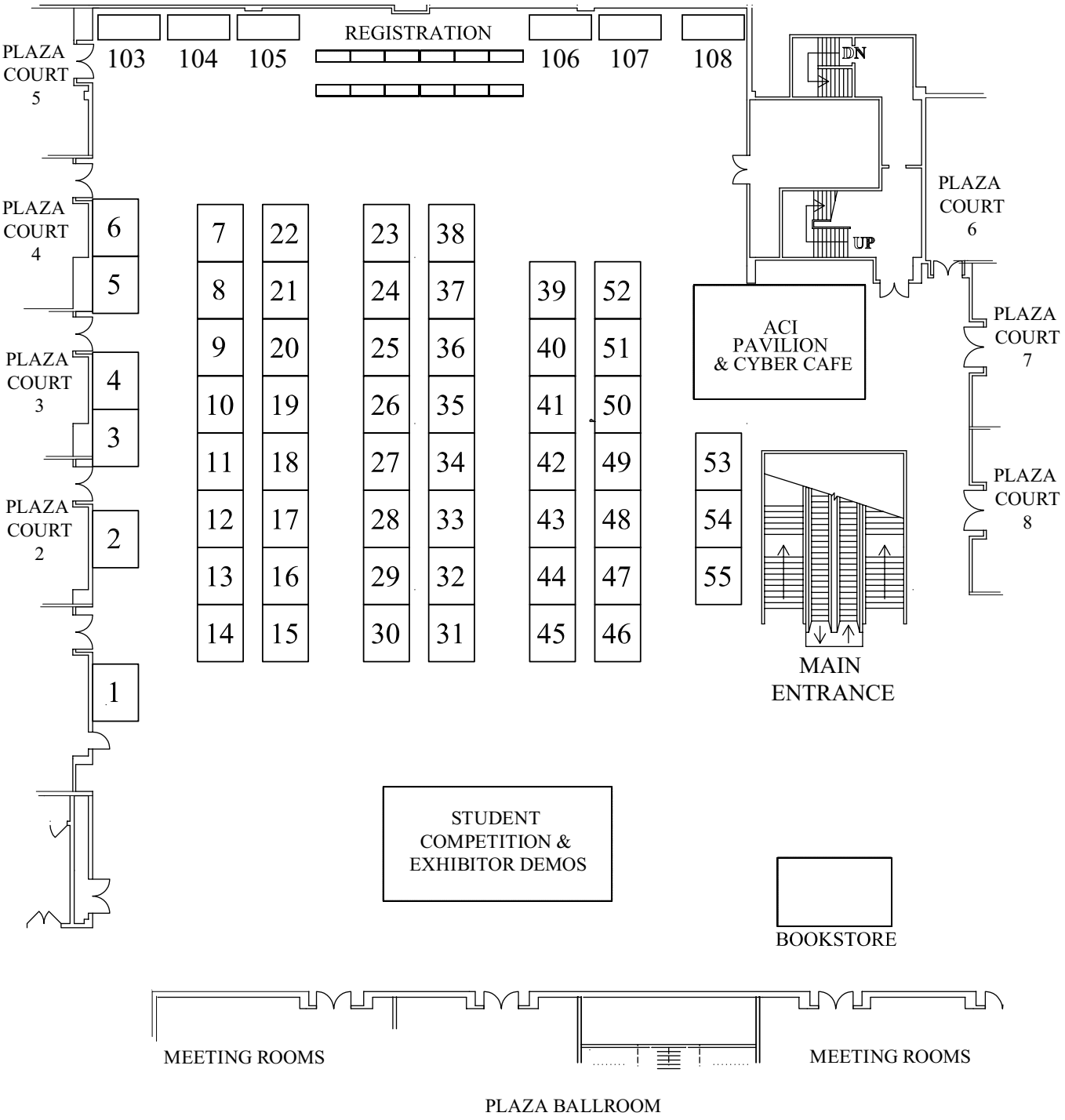
Where's That Meeting Room?

Room Name	Location	
15 | Fifty Restaurant	Plaza Building	Street Level
Century	Tower Building	Mezzanine Level
Colorado	Tower Building	Mezzanine Level
Columbine	Tower Building	Terrace Level
Denver	Tower Building	Mezzanine Level
Director's Row E	Plaza Building	Street Level
Director's Row F	Plaza Building	Street Level
Director's Row G	Plaza Building	Street Level
Director's Row H	Plaza Building	Street Level
Director's Row I	Plaza Building	Street Level
Director's Row J	Plaza Building	Street Level
Gold	Tower Building	Mezzanine Level
Governor's Square 9	Plaza Building	Concourse Level
Governor's Square 10	Plaza Building	Concourse Level
Governor's Square 11	Plaza Building	Concourse Level
Governor's Square 12	Plaza Building	Concourse Level
Governor's Square 14	Plaza Building	Concourse Level
Governor's Square 15	Plaza Building	Concourse Level
Governor's Square 16	Plaza Building	Concourse Level
Governor's Square 17	Plaza Building	Concourse Level
Grand Ballroom I	Tower Building	Second Level
Grand Ballroom II	Tower Building	Second Level
Majestic Ballroom	Tower Building	Majestic Level
Plaza Ballroom A-C	Plaza Building	Concourse Level
Plaza Ballroom D	Plaza Building	Concourse Level
Plaza Ballroom E	Plaza Building	Concourse Level
Plaza Ballroom F	Plaza Building	Concourse Level
Plaza Court 2	Plaza Building	Concourse Level
Plaza Court 3	Plaza Building	Concourse Level
Plaza Court 4	Plaza Building	Concourse Level
Plaza Court 5	Plaza Building	Concourse Level
Plaza Court 6	Plaza Building	Concourse Level
Plaza Court 7	Plaza Building	Concourse Level
Plaza Court 8	Plaza Building	Concourse Level
Plaza Exhibit Hall	Plaza Building	Concourse Level
Silver	Tower Building	Mezzanine Level
Spruce	Tower Building	Mezzanine Level
Terrace	Tower Building	Terrace Level
Tower Court A	Tower Building	Second Level
Tower Court B	Tower Building	Second Level
Tower Court C	Tower Building	Second Level
Tower Court D	Tower Building	Second Level
Vail	Tower Building	Majestic Level
Windows	Tower Building	Second Level

Maps


TOWER BUILDING
= Wheelchair accessible elevator
= Not a wheelchair accessible elevator
Tower Building Mezzanine Level
DENVER
SPRUCE
CENTURY
GOLD
SILVER
COLORADO
PLAZA BUILDING
Wheelchair accessible elevator
This elevator line is not wheelchair accessible past the Tower second level
Tower Building Second Level
Plaza Building Second Level
GRAND BALLROOM II
GRAND BALLROOM I
GUESTROOMS
WINDOWS
TOWER COURT
A
B
C
D
Wheelchair accessible elevator
Tower Building Street Level
Plaza Building Street Level
SHERATON FITNESS CENTER
ZOUP
KATIE MULLINS
Court Pl.
DIRECTOR'S ROW
BUSINESS CENTER
GIFT SHOP
FRONT DESK
15|FIFTY
PETE'S
YARDHOUSE
16 MIX
16th Street Mall
Tower Building Terrace Level
Plaza Building Concourse Level
COLUMBINE
TERRACE
PLAZA BALLROOM
GOVERNOR'S SQUARE
PLAZA EXHIBIT HALL
PLAZA COURT
Exhibits, Registration
Bookstore
* Speaker Ready Room
Tower Building Majestic Level
Plaza Building Garage Level (P2, P3, P4)
VAIL
MAJESTIC BALLROOM
GARAGE ELEVATOR

Sheraton Denver
Plaza Exhibit Hall



Exhibitors

Exhibitors are listed as of 10/7/15.

Exhibits **Plaza Exhibit Hall**

ACI would like to thank all exhibitors for their participation in and support of the ACI convention.

Exhibit Hours

Sunday – Tuesday 8:00 am – 5:00 pm

ADAPT Corporation **Booth #10**

For more than 30 years, ADAPT has delivered leading structural engineering software, consulting services, and professional training programs to structural design professionals worldwide and is widely known for its flagship software ADAPT–PT. The ADAPT exhibit will showcase the ADAPT-Builder 2015 software—a fully integrated 3-D finite element modeling, analysis, and design approach to concrete buildings.

Aggregate Industries **Booths #53 & 54**

Aggregate Industries is an environmentally responsible producer of high quality aggregate-based construction materials. We operate in various regions throughout the US and have a reputation as a trusted partner and reliable producer of building materials. We are committed to providing you reliable products and the superior customer service you deserve. For more information visit our website at **www.aggregate-us.com**

ASTM International **Booth #35**

Over 12,000 ASTM standards operate globally. Defined and set by us, they improve the lives of millions every day. Combined with our innovative business services, they enhance performance and help everyone have confidence in the things they buy and use – from the toy in a child's hand to the aircraft overhead.

ATENA – Cervenka Consulting **Booth #9**

Cervenka Consulting is developing software ATENA, a leading simulation tool for realistic modeling of reinforced concrete structures, and provides related consulting services. ATENA technology is based on the latest computational and material techniques, as confirmed by accurate predictions in many international competitions, such as the Toronto shear contest 2015.

Baker Concrete Construction **Booth #48**

Baker Concrete is the nation's leading concrete construction firm specializing in all types of cast-in-place concrete construction. Through 47 years of construction experience, Baker is qualified to handle any concrete construction project from commercial office buildings to heavy industrial power plants. Baker operates throughout the United States and the Caribbean.

BASF Corporation **Booth #46**

BASF Corporation is a worldwide supplier of chemical systems and formulations for the construction industry. Through its Master Builders Solutions brand, BASF offers a comprehensive portfolio of concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, concrete repair and protection solutions, performance grouts, and performance flooring solutions. To learn more, visit **www.master-builders-solutions.basf.us**.

Burgess Pigment Company **Booth #45**

Burgess produces OPTIPOZZ highly reactive metakaolin, a white supplementary cementitious material which 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 alkali-silica reaction, and assist in shrinkage resistance. For additional information, visit **www.OPTIPOZZ.com**.

Buzzi Unicem USA **Booth #40**

Buzzi Unicem USA, headquartered in Bethlehem, PA, is a worldwide cement company. The company produces portland, oil-well-blended, masonry cements, and calcium sulfoaluminate cement. The company's cement plants can produce 8 million tons of cement annually. Buzzi Unicem USA operates 29 terminals across the United States, distributing its various cements to over 3800 concrete producers, highway and airport paving firms, concrete block companies, and concrete product firms in 29 states. Learn more at **www.buzziunicemusa.com**.

Colorado Ready Mixed Concrete Association **Booths #28 & 29**

The CRMCA is a not-for-profit Colorado based organization representing the interests of Colorado's ready mixed concrete industry. CRMCA maintains a strong voice and presence for the industry on legislative matters, improve the quality of concrete through extensive training and educational outreach programs with basic and innovative concrete technologies in Colorado, and increase the use of concrete through promotional efforts. To learn more about the Colorado Ready Mixed Concrete Association and what we can do for you at **www.crmca.org**.

Composite Rebar Technologies **Booth #18**

Composite Rebar Technologies (CRT) is committed to building a stronger America through innovation of concrete infrastructure products that will not corrode. Their products include Long Life™ Dowel Bars—high-load-transfer efficiency and UV-resistant—and fiber-reinforced polymer (FRP) Composite Rebar—functional hollow-core, stronger-than-solid FRP reinforcing bar, and UV-resistant. All CRT products are noncorroding and engineered for a minimum service life of 100 years. To learn more, visit **www.hollowrebar.com**.

Concrete Cares **Table #104**

Concrete Cares was born to help expand the awareness of the need for cancer research and fundraising by the concrete industry. Pink, purple, and white heart necklaces will be handed out at our table to help build awareness. Stop by our table and see what you can do to help with our cause. Visit **www.concretecares.com** for more information.

***Concrete Décor* Magazine** **Booth #19**

Concrete Décor magazine is the industry's leading trade journal dedicated to delivering the latest news about trends, products, and techniques in decorative and architectural concrete markets. Published eight times a year, the magazine is a trusted resource offering in-depth coverage of the specialty construction trades that contribute to decorative and architectural concrete. Visit **www.concretedecor.net** to learn more.

Exhibitors

Exhibitors are listed as of 10/7/15.

Concrete Sealants, Inc. **Booth #25**
Concrete Sealants is widely recognized as a first-line extruder/compounder of sealants, wraps, coatings, primers, mastics, and lubricants. Our ongoing commitment to the development of new products, coupled with our excellent technical and customer service support, have made us the one company users look to for reliable, first-rate solutions to their sealant problems. Our ConBlock family of products is designed to protect concrete, making it last longer. ConBlock MIC is a unique product that inhibits the bacteria that leads to microbially induced corrosion of concrete (MICC). Visit **www.conseal.com** for more information.

Construction Materials Engineering Council, Inc. **Booth #50**
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, Puerto Rico, and Mexico.

Decon USA **Booth #52**
Decon® is presenting Studrails® and Jordahl Anchor Channels. Decon manufactures genuine punching shear reinforcement commonly used in post-tensioned concrete slabs with direct loading on columns. Decon is the exclusive representative of Jordahl for North America. Anchor channels are embedded in concrete slabs and used to securely transfer high loads. To learn more, visit **www.deconusa.com**.

ELE International **Booth #14**
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.ele.com**.

ERICO **Booth #7**
ERICO is a leading global manufacturer and marketer of superior engineered electrical and fastening products for niche electrical, mechanical, and concrete applications, which includes LENTON® engineered systems for concrete reinforcement applications. For more information, visit **www.erico.com**.

The Euclid Chemical Company **Booth #23**
For over 100 years, The Euclid Chemical Company has served as a leading supplier to the concrete and masonry industry, offering a full line of engineered concrete admixture and construction products. These products include chemical admixtures, block and masonry additives, fibers, curing and sealing compounds, epoxy adhesives, floor and wall coatings, structural grouts for columns, equipment and machinery, joint fillers, and repair products. Euclid Chemical strives to bring innovative technologies and products to the concrete market with industry-leading customer service. They understand the critical impact that sustainable design and green building has on the world. They have made it part of their company's vision to provide sustainable product systems that achieve social and environmental objectives while providing economic balance. They offer a full line of low-VOC (volatile organic compound) sealers, coatings, and products based on renewable water-based technology, along with grouts and mortars that use recycled raw materials. Visit **www.euclidchemical.com** for more information.

Excellence in Concrete Awards Gala **Table #106**
The ACI Excellence in Concrete Construction Awards provides a platform to recognize concrete projects at the forefront of innovation and technology, and showcases these projects to inspire excellence in concrete design and construction around the world. The Excellence in Concrete Construction Awards Inaugural Gala will take place on Monday, November 9, 2015, to learn more please stop by our table or visit **www.concrete.org**. Tickets for this event may be purchased at the ACI Registration Desk

FORNEY, LP **Booth #16**
FORNEY, LP is the leading manufacturer of testing equipment for the construction industry. A renowned new product innovator since 1916, Forney offers thousands of test products for the concrete, aggregates, soils, and asphalt industries. Forney, in its own way, makes the world a safer place. Designed, engineered, built, and sold by Forney. To learn more, visit **www.forneyonline.com**.

GCC of America, Inc. **Booth #49**
GCC started in 1941 and is a world-class company that produces, distributes and markets cement, ready-mixed concrete, aggregates, and innovative products related to the construction industries in Mexico and the United States.

With a new state-of-the-art plant in Pueblo, CO, GCC has reached an installed annual capacity of 5 million tons of cement production between the US and Mexico: GCC is a socially responsible, community-oriented company whose mission is to be the supplier of choice in cement, concrete products and innovative solutions. Visit **www.gccusa.com** for more information.

Germann Instruments, Inc. **Booths #31 & 32**
Germann Instruments is the leading manufacturer of advanced state-of-the-art nondestructive testing equipment for evaluating concrete structures. We are committed to advancing knowledge as well as bringing new technology to market. Germann Instruments is the developer of the most accurate test systems for measuring the in-place compressive strength of concrete: the LOK-Test and the CAPO-Test. Germann Instruments was the first to bring to market the DOCter Impact-Echo and the s'MASH Impulse Response systems for nondestructive investigation of concrete structures. Germann Instruments offers a complete range of products for corrosion evaluation, analysis of chlorides, and service life estimation. They are also the only producer of a portable concrete rheometer and the Air Void Analyzer for fresh concrete.

Giatec Scientific Inc. **Booth #22**
Giatec is a knowledge-based company offering leading-edge smart and innovative concrete testing solutions in the construction industry. Using recent smart technologies, Giatec is continuously developing novel testing methods for the effective quality control of concrete and accurate condition assessment of infrastructure. Giatec has developed advanced and efficient tools for evaluating concrete permeability, measuring electrical resistivity, and assessing reinforcing bar corrosion. These devices are combined with user-friendly software and mobile applications for accurate data analysis and management. Giatec devices include RCON™, bulk electrical resistivity measurement; Surf™, surface electrical resistivity measurement; XCell™, smart half-cell corrosion mapping; Perma2™, rapid chloride permeability test; and iCOR™, non-contact and fast corrosion rate measurement. Visit **www.giatec.ca** for more information.

Exhibitors

Exhibitors are listed as of 10/7/15.

Grace Construction Products **Booth #15**
Grace is a leading global provider of specialty construction chemicals and building materials that are used to enhance the durability, strength, and appearance of structures. Products include concrete admixtures, fibers, surface treatments and liquid pigments, additives for cement processing and masonry products, waterproofing, air and vapor barriers, and fire protection. To learn more, visit **https://grace.com/construction/en-us/concrete-technology**.

Headed Reinforcement Corp. (HRC) **Booth #36**
HRC provides high-performance reinforcement products for structural integrity and constructability. Visit **www.hrc-usa.com** for more information.

Huber Engineered Materials **Booth #43**
Huber's high-brightness HuberCrete® calcium carbonate products are designed to give your concrete better workability, an improved appearance, and reduce the amount of cement required. Whether it's ready mix concrete, precast products, or self-consolidating concrete (SCC), HuberCrete allows you to cost-effectively formulate a white concrete product that will enhance your overall color and brightness without impacting the properties of fresh or hardened concrete.

Hughes Brothers, Inc. **Booth #12**
Hughes Brothers manufactures fiber-reinforced polymer (FRP) reinforcement under the trade name Aslan FRP and licenses and supports precast producers using the THiN-Wall™ composite action insulated sandwich wall panel system. Aslan FRP products include FRP reinforcing bar for reinforcing concrete in corrosive or electrically sensitive environments, glass FRP dowel bars, and structural strengthening existing structures. To learn more, visit **www.aslanfrp.com**.

ITW Buildex/Red Head/Ramset **Booth #44**
ITW Commercial Construction encompasses the brands Buildex, Red Head, and Ramset with an overall history dating back to 1910. Within this history was the invention of the first powder-actuated tool in 1947 and the original self-drill anchor in 1967. Together, Red Head, Ramset, and Buildex work to find innovative, quality products for the construction industry in areas of concrete; drywall; metal building; fire protection; plumbing; electrical; and heating, ventilation, and air-conditioning. Since inventing the concrete anchor in 1910, the ITW Red Head family of concrete anchoring solutions continues to offer premium products to commercial and residential builders around the world. In addition to the Epcon® line of adhesives, Red Head offers the Trubolt® line of mechanical anchors and the Tapcon® line of screw anchors. In January 2014, the newest product offering was unveiled at World of Concrete with the debut of the new Epcon C6+, a pure epoxy that works in all weather conditions without losing strength. For more information, visit **www.itwredhead.com**.

Kerneos Inc. **Table #105**
Kerneos Inc. – FONDAG is a pre-blended, high strength, heat and abrasion resistant concrete designed for heavy industrial applications. Its unique characteristics are produced by the hard, dense, non-porous aggregate combined with cement produced by Kerneos Aluminate Technologies. This combination of aggregates and cement allows FONDAG to withstand the toughest combinations of violent thermal cycling, continuous heat, sever abrasion, mechanical shock, and corrosion that heavy industry demands.

Kryton International Inc. **Booth #55**
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 of its kind. Kryton is the leader in products for waterproofing, repairing, and protecting concrete and, most notably, the inventor of the crystalline waterproofing admixture. For more information, visit **www.kryton.com**.

LafargeHolcim **Booths #53 & 54**
LafargeHolcim is now the global leader in cement manufacturing with a vast network of manufacturing and distribution terminals throughout the world. To learn more about the new company please visit **www.lafargeholcim.com**.

For information on LafargeHolcim's Portland/blended cement, masonry/mortar cement, mineral components or technical services in your area please call 888-646-5246.

Myers Associates, Inc. **Booth #47**
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. Myers offers 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**.

Nomaco **Booth #17**
Nomaco provides a complete line of construction foam products including expansion joint, concrete forms, and backer rod materials for residential, commercial, airfield, roadway, and other DOT applications. For more information, visit **www.nomaco.com**.

Olson Engineering, Inc **Booth #38**
Olson Engineering, Inc. (**www.olsonengineering.com**) specializes in "Imaging the Infrastructure" for assessment, monitoring, and repair and has extensive experience in dam condition assessment. Consulting services include nondestructive evaluation, infrastructure condition assessment and repair, structural health monitoring, and geophysical and vibration engineering. Our staff includes civil, mechanical, electrical, and geophysical engineers who are involved in consulting, research, and instrument development. Olson Instruments (**www.olsoninstruments.com**) manufactures ultrasonic, sonic, and seismic instruments for pavements, foundations, and structures as well as seismic surface wave, crosshole, downhole, reflection, and refraction tests, and distributes IDS radar systems in the United States. Offices are in Colorado, New Jersey, and Virginia.

Premier Construction Products Group **Booth #41**
Premier CPG is the manufacturer of PREVent-C®, the most effective method to mitigate drying and autogenous shrinkage cracks in concrete. Based on a dual mechanism, PREVent-C concrete admixture has been proven to reduce shrinkage cracks by up to 90 to 100%. To learn more, visit **www.premiercpg.com**.

Exhibitors

Exhibitors are listed as of 10/7/15.

Primekss Rabine **Booth #34**
PrimeComposite Engineered Flooring System is a revolutionary high-tech approach to concrete production that yields the strongest and leanest industrial floor in the world that requires no joints on a daily pour. PrimeComposite is implemented as a new construction and makes a great alternative to typical concrete flooring.

Proceq USA, Inc. **Booths #3 & 4**
Proceq, founded in 1954, is a leading manufacturer of high-quality portable instruments for nondestructive testing of materials such as concrete, metal, composites, or paper. The company's strong research and development team continues to create products that set industry standards. Proceq invented the original Schmidt concrete test hammer—the world's first and most widely used instrument for concrete strength properties. Proceq's other brands include the Profometer and Profoscope cover meters, the Pundit ultrasonic instruments, the Resipod resistivity meter, the Hygropin moisture meter, and the Canin corrosion analyzing instrument. Proceq distributes and services these quality instruments worldwide through their own subsidiaries and extensive partner network. Visit **www.proceq.com** to learn more.

QuakeWrap, Inc. **Booth #1**
QuakeWrap, Inc., is a leading designer and supplier of innovative fiber-reinforced polymer (FRP) products for repair and strengthening of infrastructures. QuakeWrap® FRP products are exceptionally strong, versatile, noncorrosive, very economical, and the solution of choice in a growing number of applications including walls, beams, columns, slabs, chimneys, silos, tanks, pipes, culverts, tunnels, piles, utility poles, and blast protection. QuakeWrap products are very flexible prior to curing, allowing them to be easily applied to surfaces of varying shapes and sizes. Carbon and glass FRPs can be used on a wide range of materials, including concrete, steel, wood, timber, and masonry. Visit **www.quakewrap.com** for more information.

Radarview/UCT **Booth #8**
Radarview/UCT (Universal Construction Testing) is a full-service materials evaluation/engineering company. Our services include nondestructive testing (including ground-penetrating radar, impulse response, and deep foundation testing) and laboratory analysis (petrography, chemistry, soils, and environmental). These services support our field service as built and condition testing, pavement thickness, geophysical investigation, quality control, and load testing. To learn more, visit **www.radarviewllc.com**.

Salt River Materials Group **Booth #24**
Salt River Materials Group is a privately held construction materials organization by the Salt River Pima-Maricopa Indian Community. Our primary businesses are cement, aggregates, and fly ash.

Sensors & Software Inc. **Booth #37**
Sensors & Software's experienced professionals collaborate with customers, scientific leaders, and industry champions to continuously push the boundaries of technology and deliver cutting-edge GPR solutions for real-world applications.

S-FRAME Software/Red Seat Software **Booth #11**
S-FRAME Software provides structural analysis and design tools for commercial and industrial projects comprised of concrete and/or steel. In over 34 years of business, S-FRAME Software has more than 10,000 users in 40 countries. Visit **www.s-frame.com** for more information.

Sika Corporation **Booths #5 & 6**
Sika Corporation, Lyndhurst, NJ, is a global technology leader with over 100 years of experience in concrete materials and restoration technology. Sika's innovative product line includes high-quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, and industrial flooring, as well as roofing and waterproofing systems. Owners, architects, and engineers count on them to be a single-source supplier. For Sika's customers, that means new relationships, new markets, and new opportunities. They are committed to customer satisfaction, innovation, and teamwork. Full-service sales and technical offices support their customers nationwide. Please visit the Sika Corporation website at **usa.sika.com** for more information.

Silica Fume Association **Booth #30**
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**.

Solidia Technologies **Booth #26**
Solidia Technologies® is a sustainable technology company with a patented scientific process that makes it easy and profitable to use CO_2 to create better building, construction, and industrial products.

Stonemont Solutions, Inc. **Booth #33**
Stonemont Solutions develops quality control and mixture design software for the construction materials industry. Their integrated software product for aggregate, asphalt, and concrete is used at over 2500 plants in North America. It easily scales from the smallest to the largest producers and includes integration to concrete batching software.

STRUCTURAL Group **Booth #21**
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**.

Exhibitors

Exhibitors are listed as of 10/7/15.

Trimble Construction Logistics **Booth #20**
Trimble Construction Logistics, a division of Trimble Navigation Limited, provides real-time vehicle location and status, driver-safety monitoring, voice and text communications, business intelligence, vehicle diagnostics, fuel tracking, and performance reporting solutions specifically designed for the construction materials industry. For more information, visit **www.trimble.com/tcl**.

Trinity **Booth #42**
Trinity Expanded Shale and Clay (ESC) produces and distributes rotary-kiln expanded shale and clay lightweight aggregates made from natural shale and clay. This building material offers excellent results in both quality and performance in a variety of engineering and horticultural projects. Production applications include concrete bridge decks, high-rise buildings, concrete products, highway and road surfaces, geotechnical applications, and for horticultural projects as a soil amendment or conditioner.

uGRIDD **Booth #27**
uGRIDD is a web-based platform that shows, shares, hosts, and finds your infrastructure data through georeferencing. The website specializes its services in the areas of bridge, highway, public transit, facility, processing plant, and utility. The uGRIDD technology uniquely connects users and big data by interrelating the referencing grids of data. The uGRIDD offers solutions including enterprise data management and project data sharing with its online software and customization services, such as viewing and hosting LiDAR data.

Vector Corrosion Technologies **Booth #2**
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-tensioned corrosion and temperature-resistant composite-strengthening systems. For more information, call +1.813.830.7566 or visit **www.vector-corrosion.com**.

Wacker Neuson **Booth #13**
Select Wacker Neuson products for your site preparation, reinforcement, placement, consolidation, curing, and finishing needs. Products include trowels, compaction equipment, hydronic and air heaters, vibrators, wet screeds, saws, skid steer loaders and compact track loaders, excavators, and dumpers. All you need is the concrete. Wacker Neuson products will handle the rest. Visit **www.wackerneuson.com** to learn more.

Xypex Chemical Corporation **Booth #51**
For over 45 years, Xypex's proprietary Crystalline Technology has set an international standard of excellence in concrete waterproofing and protection. Backed by a distribution/service network in more than 90 countries, Xypex's unique Crystalline Technology provides confidence and peace of mind to architects, engineers, contractors, and concrete producers.

Zircon Corporation **Booth #39**
Introducing two new scanners to show in Denver! Zircon Corporation, the 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. To learn more, visit **www.zircon.com**.

Exhibitor Demonstration Schedule

Exhibitor Demonstrations will take place in the PLAZA EXHIBIT HALL

Monday, November 9, 2015

Time	Company/Organization	Presentation/Demo Title
9:45 am – 10:15 am	Kryton International	Innovative Design in Construction Joints
10:30 am – 11:00 am	ATENA-Cervenka Consulting	Predicting strength & structural behavior by numerical modeling
11:15 am – 11:45 am	Nomaco	Nomaflex® - New Alternatives to Asphalt
1:30 pm – 2:00 pm	Trimble Construction Logistics	Transforming the way the industry works
2:15 pm – 2:45 pm	Myers Associates	Super Air Meter Demonstration
3:00 pm – 3:30 pm	Olson Engineering	Nondestructive Test Methods

Tuesday, November 10, 2015

Time	Company/Organization	Presentation/Demo Title
9:00 am – 9:30 am	Germann Instruments	MIRADOR: 3D Impact-Echo for structural Integrity Assessment of Structures
9:45 am – 10:15 am	ADAPT	Integrated Gravity & Lateral Design for Concrete Buildings
10:30 am – 11:00 am	Stonemont Solutions, Inc.	Stonemont QC Quality Control & Mix Design Management Presentation
11:15 am – 11:45 am	ASTM International	ASTM Compass© Live Demo
12:00 pm – 12:30 pm	QuakeWrap, Inc.	New Advances in Repair & Strengthening of Structures with FRP Products
1:30 pm – 2:00 pm	Zircon	New Automatic Rebar Finder and New Through - Hole Drill Guide

Demonstration schedule listed as of 10/7/2015. 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.

You can help fund Fellowships and Scholarships

The ACI Foundation offers Fellowships and Scholarships to high-potential undergraduate and graduate students whose studies relate to concrete. In addition to an education stipend, recipients may be provided the opportunity to participate in up to three ACI Conventions (expenses paid), an industry mentor, an optional internship, and more. Nearly 20 Fellowships and Scholarships are available annually, but demand for these awards far exceeds availability.

With your help, the ACI Foundation can fund awards to additional students. For more information on funding ACI Foundation Fellowships and Scholarships—including the new Daniel W. Falconer Memorial Fellowship—visit the ACI Foundation booth in the Exhibit Hall, call Donna Halstead at +1.248.848.3778, or visit **www.ACIFoundation.org**.

aci Foundation
Knowledge to Practice

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Friday, November 6, 2015

6:30 pm - 9:00 pm		
TAC	Technical Activities M1	GOVERNOR'S SQUARE 10

Saturday, November 7, 2015

7:00 am - 6:00 pm		
TAC	Technical Activities M2	PLAZA BALLROOM D
8:00 am - 12:00 pm		
562-D	Design M1	PLAZA COURT 5
8:00 am - 5:00 pm		
131-TG	MVD Task Group	GOVERNOR'S SQUARE 10
10:00 am - 4:00 pm		
562-A	General	PLAZA COURT 4
1:00 pm - 2:00 pm		
562-D	Design M2	PLAZA COURT 5
1:00 pm - 5:00 pm		
EAC	Educational Activities M1	PLAZA COURT 6
301	Specifications M1	GOVERNOR'S SQUARE 12
2:00 pm - 6:00 pm		
	ACI Registration	PLAZA EXHIBIT HALL
	ACI Bookstore & Resource Pavilion	PLAZA EXHIBIT HALL
	Afternoon Soda Break	PLAZA EXHIBIT HALL
	Speaker Ready Room	GOVERNOR'S SQUARE 9
2:00 pm - 9:00 pm		
347	Formwork M1	GOVERNOR'S SQUARE 14
4:00 pm - 5:00 pm		
562-C	Evaluation M1	PLAZA COURT 4
6:00 pm - 8:00 pm		
562-C	Evaluation M2	PLAZA COURT 4
6:00 pm - 9:00 pm		
562-F	Durability	PLAZA COURT 5

Sunday, November 8, 2015

5:00 am and 6:00 am		
	Run/Walk Meet-Up	SHERATON LOBBY
7:00 am - 8:15 am		
301-SC	Spec-Steering Committee	DIRECTOR'S ROW F
7:00 am - 10:00 am		
	★Guest Hospitality	WINDOWS
	Coffee Break	PLAZA EXHIBIT HALL
7:00 am - 2:00 pm		
TAC	Technical Activities M3	PLAZA BALLROOM D
7:00 am - 6:00 pm		
	Speaker Ready Room	GOVERNOR'S SQUARE 9
7:30 am - 5:00 pm		
	ACI Registration	PLAZA EXHIBIT HALL
8:00 am - 8:30 am		
408-A	Mech Splices	DIRECTOR'S ROW I
8:00 am - 9:00 am		
	Convention Orientation Breakfast	GRAND BALLROOM I
	★Guest Overview	WINDOWS
8:00 am - 9:30 am		
341-D	Perf Based Seismic Design	VAIL
8:00 am - 10:00 am		
E706	Concrete Repair Education	TOWER COURT C
S801	Student Activities	DIRECTOR'S ROW E
130-H	Climate Change Impacts on the Sustainability of Concrete	CENTURY
562-B	Loads	COLORADO
8:00 am - 10:00 am		
	Student Competition Check-In	PLAZA EXHIBIT HALL
8:00 am - 10:30 am		
CLC	Construction Liaison	DIRECTOR'S ROW H
8:00 am - 11:00 am		
TAC-RG1	TAC Review Group 1	PLAZA COURT 5
TAC-RG2	TAC Review Group 2	PLAZA COURT 2
TAC-RG3	TAC Review Group 3	PLAZA COURT 3
TAC-RG4	TAC Review Group 4	PLAZA COURT 4
8:00 am - 5:00 pm		
	ACI Bookstore & Resource Pavilion	PLAZA EXHIBIT HALL
	Exhibits	PLAZA EXHIBIT HALL
8:30 am - 10:00 am		
314	Simplified Design Buildings	GOVERNOR'S SQUARE 10
342	Bridge Evaluation	TERRACE
8:30 am - 11:00 am		
440-M	FRP-Repair of Masonry Str	GRAND BALLROOM II
8:30 am - 11:30 am		
301	Specifications M2	SILVER
350-C	Env Str-Reinf & Devel	DENVER
408	Bond and Development of Steel Reinforcement	DIRECTOR'S ROW I
9:00 am - 10:30 am		
E701	Materials for Concrete Construction	GOLD
9:00 am - 11:00 am		
551	Tilt-Up	GOVERNOR'S SQUARE 17

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Sunday, November 8, 2015

9:00 am - 1:00 pm		
347	Formwork M2	GOVERNOR'S SQUARE 16
9:30 am - 11:00 am		
341-A	Equake Res Brdgs-Columns	VAIL
9:30 am - 11:30 am		
445-B	Shear & Torsion-Seismic Shear	PLAZA COURT 7
9:30 am - 12:30 pm		
228	Nondestructive Testing	PLAZA BALLROOM E
445-A	Shear & Torsion-Strut & Tie	TOWER COURT D
10:00 am - 11:00 am		
343-G	Editorial	PLAZA COURT 8
546-D	Bagged Materials	COLORADO
10:00 am - 11:30 am		
C601-D	Decorative Concrete Finisher	TOWER COURT B
Intl-Frm	ACI International Forum	GOVERNOR'S SQUARE 14
10:00 am - 12:00 pm		
C660	Shotcrete Nozzleman Cert	TOWER COURT A
369	Seismic Rehab M1	DIRECTOR'S ROW E
10:00 am - 1:00 pm		
421	Reinf Slabs	PLAZA BALLROOM F
10:00 am - 5:00 pm		
	★Guest Lounge	WINDOWS
10:30 am - 12:00 pm		
376-01	Steering Subcommittee	PLAZA COURT 6
10:30 am - 1:30 pm		
ITG-10	ITG-10 Alternative Cementitious Materials	SPRUCE
11:00 am - 12:00 pm		
201-TG2	Physical Salt Attack	GOVERNOR'S SQUARE 10
546-E	Corrosion Studies	COLORADO
11:00 am - 12:30 pm		
C650	Tilt-Up Constructor Cert	PLAZA COURT 8
341-B	Equake Res Brdgs-Pier Walls	VAIL
11:00 am - 1:00 pm		
C640	Craftsman Cert	GOLD
549	Thin Reinforced	GOVERNOR'S SQUARE 17
11:00 am - 4:00 pm		
	ACI Pervious Concrete Student Competition	PLAZA EXHIBIT HALL
11:30 am - 12:30 pm		
209-C	Models Applicability and Uncertainty	PLAZA COURT 7
11:30 am - 1:00 pm		
221	Aggregates	DIRECTOR'S ROW H
335	Composite and Hybrid Structures	DIRECTOR'S ROW I
350-SC	Env Str-Steering Comm	DIRECTOR'S ROW J
441-E	Columns Multi-Spiral Reinf	DIRECTOR'S ROW F
11:30 am - 1:30 pm		
	✓International Lunch	GRAND BALLROOM I
12:00 pm - 2:00 pm		
201-TG3	Alkali-Aggregate Reactivity	DIRECTOR'S ROW E
201-TG4	Impact of Natural and Other Pozzolans on Durability	TOWER COURT C
12:00 pm - 4:30 pm		
237-TG1	Self-Consolidating Concrete Task Group	COLORADO
12:30 pm - 2:00 pm		
130-F	Social Issues	TOWER COURT D
445-E	Shear & Torsion-Torsion	DENVER
12:30 pm - 2:30 pm		
215	Fatigue	TOWER COURT A
12:30 pm - 3:30 pm		
133	Disaster Reconnaissance	CENTURY
12:30 pm - 4:30 pm		
	✓Discover Denver in a Day Tour	DEPART SHERATON MAIN LOBBY
301-B	Spec-Formwork & Reinforcement	PLAZA COURT 4
12:30 pm - 5:30 pm		
301	Specifications M3	SILVER
1:00 pm - 2:00 pm		
301-H	Spec-Tilt-Up Constr & Arch Conc	DIRECTOR'S ROW J
1:00 pm - 2:30 pm		
C601-I	Shotcrete Inspector	DIRECTOR'S ROW I
1:00 pm - 3:00 pm		
228-B	Visual Inspection	TOWER COURT B
239-A	Emerging Technology Report	PLAZA COURT 7
376-B	Materials Subcommittee	PLAZA COURT 2
423-F	Sustainable Prestressed Concrete	PLAZA COURT 8
440-J	FRP Stay-in-Place Forms	PLAZA BALLROOM E
445-C	Shear & Torsion-Punching Shear	DIRECTOR'S ROW F

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Sunday, November 8, 2015

1:00 pm - 3:00 pm—*Sessions*		
	Cement-Admixture Interaction, Part 1 of 2	GOVERNOR'S SQUARE 12
	Concrete with Recycled Materials, Part 1 of 2	GOVERNOR'S SQUARE 14
	Recent Developments in Two-Way Slabs: Design, Analysis, Construction, and Evaluation	GOVERNOR'S SQUARE 11
1:00 pm - 4:00 pm		
	Afternoon Soda Break	PLAZA EXHIBIT HALL
362-A	Updating Guide to Struct Maint of Pkg Struct Doc	DIRECTOR'S ROW H
369	Seismic Rehab M2	GOLD
1:00 pm - 5:00 pm		
301-C	Spec-Placing Consolidating & Curing	GOVERNOR'S SQUARE 17
301-D	Spec-Lightweight & Massive Concrete	PLAZA COURT 3
301-G	Spec-Shrink Comp Conc & Ind Floor Slabs	PLAZA COURT 5
336	Footings	PLAZA COURT 6
350-E	Env Str-Precast/ Prestressed	GOVERNOR'S SQUARE 16
562	Eval, Repair & Rehab	GRAND BALLROOM II
1:30 pm - 3:00 pm		
IC-Cert	International Certification	GOVERNOR'S SQUARE 10
341-C	Equake Res Brdgs-Retrofit	VAIL
1:30 pm - 3:30 pm		
345	Bridge Construction	SPRUCE
1:30 pm - 5:00 pm		
355	Anchorage	PLAZA BALLROOM F
2:00 pm - 3:00 pm		
310/ 308-TG2	Curing Decorative Concrete Joint TG	DIRECTOR'S ROW J
2:00 pm - 4:00 pm		
MEMC	Membership	TERRACE
305	Hot Weather	TOWER COURT C
2:00 pm - 4:00 pm—*Session*		
	International Session: Development of High-Rise Buildings Around the World	GOVERNOR'S SQUARE 15
2:00 pm - 5:00 pm		
132	Responsibility	PLAZA BALLROOM D
315	Detailing	TOWER COURT D
352	Joints	DIRECTOR'S ROW E
445-D	Shear & Torsion-Shear Databases	DENVER
2:30 pm - 4:00 pm		
HTC	Hot Topic	TOWER COURT A
2:30 pm - 5:00 pm		
224	Cracking	DIRECTOR'S ROW I
363	High-Strength	MAJESTIC BALLROOM
3:00 pm - 4:00 pm		
236-TG1	Advanced Analysis Techniques for Concrete	GRAND BALLROOM I
3:00 pm - 4:30 pm		
309	Consolidation	PLAZA COURT 2
3:00 pm - 5:00 pm		
301-E	Spec-Post-Tensioned Concrete	DIRECTOR'S ROW G
341	Earthquake-Resistant Bridges	VAIL
370	Blast and Impact Load Effects	TOWER COURT B
376-C	Analysis Subcommittee	PLAZA COURT 7
423-TG1	Unbonded Tendons Task Group	DIRECTOR'S ROW F
440-TG2	Repair Construction Specification	PLAZA BALLROOM E
550	Precast Structures	GOVERNOR'S SQUARE 10
3:00 pm - 5:30 pm		
121	Quality Assurance	PLAZA COURT 8
310	Decorative Concrete	DIRECTOR'S ROW J
3:30 pm - 5:00 pm		
439-A	Steel Reinf-Wire	SPRUCE
3:30 pm - 5:30 pm—*Sessions*		
	Cement-Admixture Interaction, Part 2 of 2	GOVERNOR'S SQUARE 12
	Concrete with Recycled Materials, Part 2 of 2	GOVERNOR'S SQUARE 14
	Emerging Technologies in Civil Infrastructure	GOVERNOR'S SQUARE 11
4:00 pm - 5:00 pm		
423-C	Corrsn & Repr Grtd Tendons	TOWER COURT A
4:00 pm - 5:30 pm		
S805	ACI Collegiate Concrete Council-CLGE	GRAND BALLROOM I
123	Research	TOWER COURT C
241	Nanotechnology of Concrete M1	GOLD
423/445	Adhoc Grp on Shear in Prestress Conc	DIRECTOR'S ROW H
4:30 pm - 5:30 pm		
209-D	Numerical Methods and 3D Analyses	PLAZA COURT 2

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Sunday, November 8, 2015

5:45 pm - 7:00 pm		
	Opening Session and Katharine & Bryant Mather Commemorative Lecture Series	PLAZA BALLROOM A-C
7:00 pm - 8:00 pm		
	Opening Reception	PLAZA EXHIBIT HALL
8:00 pm - 10:00 pm—*Session*		
	Hot Topic Session: Constructability of Projects Designed for 100+ Year Service Life	GOVERNOR'S SQUARE 14
9:00 pm - 10:30 pm		
	Student and Young Professional Networking Event	15 | FIFTY RESTAURANT

Monday, November 9, 2015

5:00 am and 6:00 am		
	Run/Walk Meet-Up	SHERATON LOBBY
6:00 am - 6:45 am		
	Morning Yoga Class	FITNESS CENTER FOYER
6:30 am - 8:00 am		
	Workshop for Technical Committee Chairs (by invitation only)	PLAZA BALLROOM A-C
7:00 am - 8:30 am		
ITG-9	ITG-9 Concrete Wind Turbine Towers	PLAZA COURT 7
	Speaker Development Breakfast	DIRECTOR'S ROW H
7:00 am - 10:00 am		
	★Guest Hospitality	WINDOWS
	Coffee Break	PLAZA EXHIBIT HALL
7:00 am - 6:00 pm		
	Speaker Ready Room	GOVERNOR'S SQUARE 9
7:15 am - 8:30 am		
IC-Conf	International Conferences	PLAZA COURT 4
7:30 am - 5:00 pm		
	ACI Registration	PLAZA EXHIBIT HALL
8:00 am - 9:00 am		
441-A	High-Strength Conc	PLAZA COURT 6
8:00 am - 10:00 am		
376-D	Design & Construction Subcommittee	DIRECTOR'S ROW F
562-E	Education	PLAZA COURT 3
8:00 am - 11:00 am		
349-C	Nuclear Str-Anchorage	GOVERNOR'S SQUARE 16
8:00 am - 5:00 pm		
	ACI Bookstore & Resource Pavilion	PLAZA EXHIBIT HALL
	Exhibits	PLAZA EXHIBIT HALL
8:15 am - 11:00 am		
237	Self-Consolidating Concrete	PLAZA BALLROOM E
548-A	Polymers-Overlays	SPRUCE
8:30 am - 9:30 am		
S802	Teaching Methods and Educational Materials	PLAZA COURT 7
8:30 am - 10:00 am		
130-A	Materials	PLAZA BALLROOM D
446	Fracture Mechanics	GOVERNOR'S SQUARE 17
524	Plastering	TOWER COURT D
533	Precast Panels	DENVER
544-SC	FRC-Steering Committee	TOWER COURT B
8:30 am - 10:30 am		
439	Steel Reinforcement	GOVERNOR'S SQUARE 10
506-C	Shotcreting-Guide	DIRECTOR'S ROW J
546	Repair	SILVER
8:30 am - 10:30 am—*Sessions*		
	ABC Connections for Seismic-Resistant Design	GOVERNOR'S SQUARE 14
	Chloride Limits and Thresholds for Concrete Containing Supplementary Cementitious Materials (SCMs), Part 1 of 2	GOVERNOR'S SQUARE 15
	Entering the Industry: What I Wish I Knew	GOVERNOR'S SQUARE 12
	Research in Progress, Part 1 of 2	GOVERNOR'S SQUARE 11
8:30 am - 11:00 am		
C610	Field Technician Cert	PLAZA BALLROOM F
8:30 am - 11:30 am		
543	Piles	PLAZA COURT 4
8:30 am - 12:00 pm		
301-A	Spec-Gen Req, Definitions, & Tolerances	PLAZA COURT 2
374	Seismic Design	MAJESTIC BALLROOM
8:30 am - 12:30 pm		
423	Prestressed	VAIL
440-F	FRP-Repair-Strengthening	GRAND BALLROOM I
8:30 am - 1:00 pm		
302	Floor Construction	GRAND BALLROOM II
350-B	Env Str-Durability	CENTURY

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Monday, November 9, 2015

8:30 am - 6:30 pm		
350-D	Env Str-Structural	GOLD
9:00 am - 10:00 am		
441-B	Lateral Reinf	PLAZA COURT 6
9:00 am - 11:00 am		
365	Service Life	TOWER COURT C
9:00 am - 12:00 pm		
301-F	Spec-Precast Concrete Panels	TERRACE
9:30 am - 11:00 am		
364-A	Editorial Subcommittee	PLAZA COURT 7
10:00 am - 12:00 pm		
216	Fire Resistance	DENVER
343	Bridge Design	PLAZA BALLROOM D
376-A	Code, Education & Publication Subcommittee	DIRECTOR'S ROW F
10:00 am - 12:30 pm		
207	Mass Concrete	TOWER COURT B
377	Performance-Based Structural Integrity & Resilience of Concrete Structures	PLAZA COURT 3
10:00 am - 1:00 pm		
209	Creep & Shrinkage	PLAZA COURT 6
240	Natural Pozzolans	DIRECTOR'S ROW H
544-A	FRC-Education Production Application	GOVERNOR'S SQUARE 17
10:00 am - 5:00 pm		
	★Guest Lounge	WINDOWS
10:30 am - 11:00 am—*Session*		
	Research in Progress Poster Session	GOVERNOR'S SQUARE FOYER
10:30 am - 12:30 pm		
239-C	Structural Design on UHPC	SILVER
437	Strength Evaluation	GOVERNOR'S SQUARE 10
506-E	Shotcreting-Specifications	DIRECTOR'S ROW J
11:00 am - 12:00 pm		
364-TG1	Rehab Guide	PLAZA COURT 7
11:00 am - 12:30 pm		
318-S	Spanish Translation	SPRUCE
548-C	Structural Polymer Design	TOWER COURT A
11:00 am - 1:00 pm—*Sessions*		
	50 Years of Environmental Engineering Concrete Structures at ACI: Past, Present, and Future	GOVERNOR'S SQUARE 12
	Chloride Limits and Thresholds for Concrete Containing Supplementary Cementitious Materials (SCMs), Part 2 of 2	GOVERNOR'S SQUARE 15
	Research in Progress, Part 2 of 2	GOVERNOR'S SQUARE 11
	The Legacy of Per Fidjestøl: A Pioneer of Silica Fume Concrete, Part 1 of 2	GOVERNOR'S SQUARE 14
11:00 am - 1:30 pm		
447	Finite Element Analysis	GOVERNOR'S SQUARE 16
11:30 am - 1:00 pm		
C601-G	Self-Consolidating Concrete Testing	DIRECTOR'S ROW I
C655	Foundation Constructor Certification	TOWER COURT D
201-D	Durability-Oversight Committee	PLAZA COURT 4
304	Measuring/Mix/Trans/Placing	TOWER COURT C
346	CIP Pipe	PLAZA COURT 5
11:30 am - 1:30 pm		
	✓Student Lunch	PLAZA BALLROOM A-C
11:30 am - 2:00 pm		
441	Columns	PLAZA BALLROOM F
12:30 pm - 1:30 pm		
124	Aesthetics	DIRECTOR'S ROW J
12:30 pm - 2:00 pm		
214-A	Document Preparation	TERRACE
350-H	Env Str-Editorial	PLAZA COURT 7
12:30 pm - 6:00 pm		
301	Specifications M4	MAJESTIC BALLROOM
1:00 pm - 2:30 pm		
C630	Construction Inspector Cert	DIRECTOR'S ROW F
1:00 pm - 3:00 pm		
C601-F	Nondestructive Testing Technician	GOVERNOR'S SQUARE 10
122	Energy Efficiency	PLAZA COURT 5
350-J	Env Str-Education	PLAZA COURT 6
1:00 pm - 3:30 pm		
375	Design for Wind Loads	DIRECTOR'S ROW I

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Monday, November 9, 2015		
1:00 pm - 4:00 pm		
	Afternoon Soda Break	PLAZA EXHIBIT HALL
232	Fly Ash in Concrete	SILVER
364	Rehabilitation	DIRECTOR'S ROW H
376	RLG Containment Structures	SPRUCE
1:00 pm - 4:30 pm		
349-AB	Nuclear Structures-Design & Materials	PLAZA BALLROOM E
1:00 pm - 5:00 pm		
225	Hydraulic Cements	PLAZA COURT 4
362	Parking Structures	GOVERNOR'S SQUARE 17
1:30 pm - 3:00 pm		
352-TG2	Beam-Column Joints & Connections	DIRECTOR'S ROW J
440-E	FRP-Prof Education	DENVER
506-A	Shotcreting-Evaluation	PLAZA COURT 3
1:30 pm - 3:30 pm—*Sessions*		
	Curing—Finish the Construction, Part 1 of 2	GOVERNOR'S SQUARE 15
	Design and Performance of Concrete Bridges and Buildings When Interacting with Soils and Foundations, Part 1 of 2	GOVERNOR'S SQUARE 12
	fib Perspective on Life-Cycle Cost and Service Life Design	GOVERNOR'S SQUARE 11
	The Legacy of Per Fidjestøl: A Pioneer of Silica Fume Concrete, Part 2 of 2	GOVERNOR'S SQUARE 14
2:00 pm - 3:30 pm		
348	Safety	PLAZA COURT 7
2:00 pm - 4:00 pm		
231	Early Age	GOVERNOR'S SQUARE 16
351-D	Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures	PLAZA COURT 2
2:00 pm - 5:00 pm		
CAC	Chapter Activities	TOWER COURT D
MKTC	Marketing	CENTURY
130	Sustainability M1	PLAZA BALLROOM D
212	Chemical Admixtures	TOWER COURT B
307	Chimneys	TERRACE
318-C	Serviceability/Safety M1	TOWER COURT C
2:00 pm - 6:00 pm		
369	Seismic Rehab M3	TOWER COURT A
445	Shear and Torsion-Joint ACI-ASCE	PLAZA BALLROOM F
2:00 pm - 6:30 pm		
360	Slabs on Ground	GRAND BALLROOM II
2:30 pm - 4:00 pm		
318-L	International Liaison	DIRECTOR'S ROW F
3:00 pm - 4:00 pm		
201-TG1	Aggressive Chemicals	DENVER
3:00 pm - 4:30 pm		
C601	New Certification Program	PLAZA COURT 5
352-TG1	Slab-Column Joints & Connections	DIRECTOR'S ROW J
3:00 pm - 5:00 pm		
371	Elevated Tanks with Concrete Pedestals	PLAZA COURT 6
548-B	Polymers-Adhesives	PLAZA COURT 3
3:00 pm - 6:00 pm		
435	Deflection	GOVERNOR'S SQUARE 10
440-H	FRP-Reinforced Concrete	GRAND BALLROOM I
3:30 pm - 5:00 pm		
CSAO	Committee on Codes & Standards Advocacy & Outreach	PLAZA COURT 7
506-B	Shotcreting-Fiber-Reinforced	DIRECTOR'S ROW I
	★Guest Social (by invitation only)	15 | FIFTY RESTAURANT
3:30 pm - 5:30 pm		
239	Ultra-High Performance Concrete	VAIL
4:00 pm		
	Beer Garden—*sponsored in part by Full Line Testing and Inspection, LLC and Rocky Mountain Chapter – ACI and*	PLAZA EXHIBIT HALL
4:00 pm - 5:30 pm		
211-P	Guide for Selecting Proportions for Pumpable Concrete	PLAZA COURT 2
214	Strength Tests	GOVERNOR'S SQUARE 16
235	Electronic Data Exchange	SILVER
4:00 pm - 6:00 pm		
351-C	Equip Fdns - Dynamic Fdns	DENVER

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Monday, November 9, 2015

4:00 pm - 6:00 pm—*Sessions*		
	Carbon Dioxide Utilization in Concrete	GOVERNOR'S SQUARE 11
	Curing—Finish the Construction, Part 2 of 2	GOVERNOR'S SQUARE 15
	Design and Performance of Concrete Bridges and Buildings When Interacting with Soils and Foundations, Part 2 of 2	GOVERNOR'S SQUARE 12
	Rebuilding Colorado after the 2013 Flash Floods	GOVERNOR'S SQUARE 14
4:30 pm - 5:30 pm		
C601-J	Adhesive Anchor Installation Inspector	PLAZA COURT 5
236	Material Science	PLAZA BALLROOM E
506-F	Shotcreting-Underground	DIRECTOR'S ROW J
4:30 pm - 6:30 pm		
221-TG	Task Group on AAR	DIRECTOR'S ROW H
5:00 pm - 6:30 pm		
E702	Designing Concrete Structures	TOWER COURT B
447-TG	Finite Element Analysis Task Group	PLAZA COURT 6
544-E	FRC-Mechanical Properties	TERRACE
555	Recycled	DIRECTOR'S ROW I
5:00 pm - 7:00 pm		
E703	Concrete Construction Practices	PLAZA COURT 4
334	Shells	PLAZA COURT 3
5:30 pm - 6:30 pm		
	Women in ACI Reception	WINDOWS
6:30 pm - 8:30 pm		
	✓The Excellence in Concrete Construction Awards Inaugural Gala (doors open at 5:30 pm)	PLAZA BALLROOM A-C
8:30 pm - 10:00 pm		
	The Excellence in Concrete Construction Awards Inaugural Gala Reception	PLAZA BALLROOM A-C

Tuesday, November 10, 2015

5:00 am and 6:00 am		
	Run/Walk Meet-Up	SHERATON LOBBY
6:00 am - 6:45 am		
	Morning Yoga Class	FITNESS CENTER FOYER
6:30 am - 8:00 am		
TTAG	Technology Transfer Advisory Group	DIRECTOR'S ROW J
7:00 am - 8:30 am		
IPAC	International Project Awards Committee	TOWER COURT C
TRRC	TAC Repair & Rehab	TOWER COURT A
7:00 am - 10:00 am		
	★Guest Hospitality	WINDOWS
	Coffee Break	PLAZA EXHIBIT HALL
7:00 am - 6:00 pm		
	Speaker Ready Room	GOVERNOR'S SQUARE 9
7:30 am - 9:00 am		
C601-E	Concrete Construction Sustainability Assessor	DIRECTOR'S ROW F
130-G	Education/Certification	CENTURY
7:30 am - 5:00 pm		
	ACI Registration	PLAZA EXHIBIT HALL
8:00 am - 9:00 am		
	India Chapter of ACI Meeting	DIRECTOR'S ROW E
8:00 am - 9:30 am		
C620	Laboratory Tech Cert	TOWER COURT D
230	Soil Cement	DENVER
8:00 am - 10:00 am		
238	Workability of Fresh Concrete	GOVERNOR'S SQUARE 10
444	Structural Health Monitoring and Instrumentation	TERRACE
8:00 am - 11:00 am		
201	Durability	DIRECTOR'S ROW H
440	Fiber-Reinforced Polymer	GRAND BALLROOM I
522	Pervious Concrete	SILVER
8:00 am - 12:30 pm		
318-B	Anchorage and Rein-forcement	PLAZA BALLROOM F
318-C	Serviceability/Safety M2	GOVERNOR'S SQUARE 17
318-E	Section and Member Strength	MAJESTIC BALLROOM
318-F	Foundations	PLAZA COURT 4
318-G	Precast and Prestressed Concrete	VAIL
350	Environmental Structures M1	GRAND BALLROOM II
8:00 am - 5:00 pm		
	ACI Bookstore & Resource Pavilion	PLAZA EXHIBIT HALL
	Exhibits	PLAZA EXHIBIT HALL

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Tuesday, November 10, 2015

8:30 am - 10:30 am		
523	Cellular Concrete	GOVERNOR'S SQUARE 16
560	Design & Constr ICFs	PLAZA BALLROOM E
8:30 am - 10:30 am—*Sessions*		
	A Performance-Based Approach to Hot Weather Concreting, Part 1 of 2	GOVERNOR'S SQUARE 12
	Contractors' Day Session: Constructability, Part 1 of 2	GOVERNOR'S SQUARE 14
	SCC Ready Mixed Concrete Applications	GOVERNOR'S SQUARE 15
	UHPC Innovative Applications and Constructional Concepts, Part 1 of 2	GOVERNOR'S SQUARE 11
8:30 am - 11:30 am		
117	Tolerances	DIRECTOR'S ROW I
306	Cold Weather	DIRECTOR'S ROW J
506	Shotcreting	PLAZA BALLROOM D
548	Polymers	PLAZA COURT 2
9:00 am - 10:00 am		
325-A	Pavements-Design	CENTURY
9:00 am - 10:30 am		
332-B	Conc Mtrls and Plcmnt	GOLD
332-D	Residential Conc-Footings & Foundation Walls	PLAZA COURT 6
9:00 am - 11:00 am		
515	Protective Systems	DIRECTOR'S ROW F
9:00 am - 11:30 am		
IAC	International Advisory Committee	DIRECTOR'S ROW E
9:30 am - 11:00 am		
PUBC	Publications	PLAZA COURT 7
130-E	Design/Specifications/ Codes/Regulations	TOWER COURT C
9:30 am - 11:30 am		
357	Offshore & Marine	DENVER
10:00 am - 11:30 am		
C631	Conc Transportation Const Insp	GOVERNOR'S SQUARE 10
238-A	Student Workability	TERRACE
310-J	Polished Finishes	TOWER COURT D
10:00 am - 12:00 pm		
EAC	Educational Activities M2	SPRUCE
211-A	Proportioning-Editorial	PLAZA COURT 3
10:00 am - 5:00 pm		
	★Guest Lounge	WINDOWS
10:30 am - 12:00 pm		
325-C	Pavements-Prestressed and Precast	PLAZA COURT 6
332-F	Residential Concrete-Slabs	GOLD
544-F	FRC-Durability	PLAZA BALLROOM E
10:30 am - 12:30 pm		
349/359/ 370-TG	349/359/370 Joint Task Group	GOVERNOR'S SQUARE 16
10:30 am - 1:00 pm		
526	Autoclaved Aerated Concrete	TOWER COURT A
11:00 am - 12:30 pm		
213-TG	Lightweight - Editorial TG	DIRECTOR'S ROW F
11:00 am - 1:00 pm		
CRC	Concrete Research Council	TOWER COURT C
130	Sustainability M2	SILVER
327	RCC Pavements	PLAZA COURT 7
11:00 am - 1:00 pm—*Sessions*		
	A Performance-Based Approach to Hot Weather Concreting, Part 2 of 2	GOVERNOR'S SQUARE 12
	Formed-Surface Finish with SCC	GOVERNOR'S SQUARE 15
	Seismic Design of Segmental and Innovative Bridges	GOVERNOR'S SQUARE 14
	UHPC Innovative Applications and Constructional Concepts, Part 2 of 2	GOVERNOR'S SQUARE 11
11:30 am - 1:00 pm		
E707	Specification Education	TERRACE
211-TG2	Developing & Using a Three-Point Curve Task Group	DENVER
332-E	Residential Concrete-Above Grade Walls	DIRECTOR'S ROW J
544-D	FRC-Structural Uses	TOWER COURT D
11:30 am - 1:30 pm		
	✓Contractors' Day Lunch	PLAZA BALLROOM A
12:00 pm - 1:00 pm		
325-F	Concrete Pavement Overlays	PLAZA COURT 6
12:30 pm - 2:00 pm		
C680	Adhesive Anchor Installer	TOWER COURT B
311	Inspection	PLAZA COURT 5

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Tuesday, November 10, 2015

12:30 pm - 3:30 pm		
	✓Bureau of Reclamation's Materials Engineering and Research Laboratory Tour	DEPART SHERATON MAIN LOBBY
1:00 pm - 3:00 pm		
211-I	Assessing Aggregate Gradation	TERRACE
211-TG1	Proportioning Concrete with Non Clinker Based Cements	PLAZA COURT 6
241	Nanotechnology of Concrete M2	PLAZA COURT 7
325-D	Proportioning for Pavements	PLAZA COURT 2
1:00 pm - 3:30 pm		
350-F	Env Str-Seismic	TOWER COURT A
1:00 pm - 4:00 pm		
	Afternoon Soda Break	PLAZA EXHIBIT HALL
1:00 pm - 5:00 pm		
350-A	Env Str-General & Concrete	DIRECTOR'S ROW F
563	Specs for Repair of Struct Conc in Bldgs	GOVERNOR'S SQUARE 16
1:30 pm - 3:00 pm		
120	History	VAIL
544-C	FRC-Testing	GRAND BALLROOM I
1:30 pm - 3:30 pm		
213	Lightweight	SILVER
1:30 pm - 3:30 pm—*Sessions*		
	Contractors' Day Session: Constructability, Part 2 of 2	GOVERNOR'S SQUARE 14
	Crack Width Determination for Liquefied Natural Gas Containment Concrete Structures and Environmental Engineering Concrete Structures, Part 1 of 2	GOVERNOR'S SQUARE 15
	Methods for Measurement and Mitigation of Early-Age Deformations, Part 1 of 2	GOVERNOR'S SQUARE 12
	Open Topic Session, Part 1 of 2	GOVERNOR'S SQUARE 11
1:30 pm - 4:30 pm		
	✓National Renewable Energy Laboratory Tour	DEPART SHERATON MAIN LOBBY
1:30 pm - 5:00 pm		
332	Residential Concrete	DIRECTOR'S ROW H
349	Nuclear Structures	GRAND BALLROOM II
1:30 pm - 6:00 pm		
318-A	General Concrete Constr	GOLD
318-D	Members	PLAZA COURT 3
318-H	Seismic Provision	MAJESTIC BALLROOM
318-J	Joints and Connections	PLAZA COURT 4
318-R	High Strength Reinforcement	DIRECTOR'S ROW E
2:00 pm - 3:30 pm		
S806	Young Professional Activities	CENTURY
118	Use of Digital Technology	TOWER COURT D
325-E	Accelerated Paving	PLAZA COURT 5
2:00 pm - 4:00 pm		
130-D	Rating Systems/ Sustainability Tools	PLAZA BALLROOM F
2:00 pm - 4:30 pm		
234	Silica Fume	SPRUCE
2:00 pm - 5:00 pm		
CPC	Certification Programs	DIRECTOR'S ROW I
222	Corrosion	GOVERNOR'S SQUARE 10
223	Shrinkage Compensating	DIRECTOR'S ROW J
229	Controlled Low Strength	GOVERNOR'S SQUARE 17
233	Slag Cement	TOWER COURT B
3:00 pm - 4:00 pm		
CC	Convention Committee Open Meeting	TOWER COURT C
211-N	Proportioning-Limestone	PLAZA COURT 2
3:00 pm - 5:00 pm		
131	BIM	VAIL
372	Tanks Wrapped Wire/ Strand	PLAZA COURT 7
3:00 pm - 5:30 pm		
544	Fiber-Reinforced Concrete	GRAND BALLROOM I
3:30 pm - 5:00 pm		
363-A	High-Strength Light-weight Concrete	CENTURY
3:30 pm - 5:30 pm		
325	Pavements	SILVER
4:00 pm		
	Beer Garden—*sponsored in part by DRP Consulting, Inc., Intelligent Concrete, and the Rocky Mountain Chapter – ACI*	PLAZA EXHIBIT HALL
4:00 pm - 5:30 pm		
308-B	Curing-Specifications	DENVER
552	Cementitious Grouting	TERRACE

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Tuesday, November 10, 2015

4:00 pm - 6:00 pm		
351	Equip Foundations	TOWER COURT A
4:00 pm - 6:00 pm—*Sessions*		
	Crack Width Determination for Liquefied Natural Gas Containment Concrete Structures and Environmental Engineering Concrete Structures, Part 2 of 2	GOVERNOR'S SQUARE 15
	Methods for Measurement and Mitigation of Early-Age Deformation, Part 2 of 2	GOVERNOR'S SQUARE 12
	Open Topic Session, Part 2 of 2	GOVERNOR'S SQUARE 11
	Proportioning with Ground Limestone and Mineral Filler, Part 1 of 2	GOVERNOR'S SQUARE 14
5:30 pm - 6:30 pm		
	Faculty Network Reception	TOWER COURT D
6:30 pm - 8:00 pm		
	Concrete Mixer: Denver Brew-Ski	PLAZA BALLROOM

Wednesday, November 11, 2015

5:00 am and 6:00 am		
	Run/Walk Meet-Up	SHERATON LOBBY
6:00 am - 6:45 am		
	Morning Yoga Class	FITNESS CENTER FOYER
7:00 am - 8:30 am		
C601-H	Cement Testing	PLAZA COURT 4
7:00 am - 9:00 am		
SYPAC	Student and Young Professional Activities	PLAZA COURT 2
7:00 am - 10:00 am		
	★Guest Hospitality	WINDOWS
	Coffee Break	PLAZA EXHIBIT HALL
7:00 am - 2:00 pm		
	Speaker Ready Room	GOVERNOR'S SQUARE 9
7:30 am - 10:00 am		
TCSC	TAC Construction Standards	TOWER COURT C
8:00 am - 10:00 am		
308-A	Curing-Guide	DIRECTOR'S ROW E
8:00 am - 11:00 am		
211	Proportioning	GOVERNOR'S SQUARE 10
8:00 am - 12:00 pm		
	ACI Bookstore & Resource Pavilion	PLAZA EXHIBIT HALL
	ACI Registration	PLAZA EXHIBIT HALL
8:00 am - 12:00 pm—*Session*		
	Concrete Sustainability Forum 8	VAIL
8:00 am - 12:00 pm		
330	Parking Lots & Site Paving	TOWER COURT D
8:00 am - 4:00 pm		
350	Environmental Structures M2	PLAZA BALLROOM D
8:00 am - 6:00 pm		
318	Building Code	PLAZA BALLROOM E
8:30 am - 10:00 am		
C670	Masonry Technician Certification	PLAZA COURT 4
8:30 am - 10:30 am		
303	Architectural CIP	TOWER COURT A
8:30 am - 10:30 am—*Sessions*		
	Cementitious Materials for Nuclear Waste Storage and Disposal, Part 1 of 2	GOVERNOR'S SQUARE 12
	Natural Pozzolans for Sustainable Construction, Part 1 of 2	GOVERNOR'S SQUARE 14
	SHM Real-Life Applications, Part 1 of 2	GOVERNOR'S SQUARE 11
8:30 am - 11:30 am		
TG2030	Board Outlook 2030 Task Group	PLAZA COURT 3
9:00 am - 11:30 am		
ACI-Fdn	ACI Foundation	PLAZA COURT 5
9:30 am - 11:30 am		
329	Perf. Ready Mixed	TOWER COURT B
10:00 am - 12:00 pm		
C601-B	Concrete Quality Technical Mgr	DIRECTOR'S ROW F

Daily Program

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Wednesday, November 11, 2015		
10:00 am - 1:00 pm		
308	Curing	DIRECTOR'S ROW E
10:00 am - 5:00 pm		
	★Guest Lounge	WINDOWS
11:00 am - 1:00 pm—*Sessions*		
	Cementitious Materials for Nuclear Waste Storage and Disposal, Part 2 of 2	GOVERNOR'S SQUARE 12
	Deflections and Construction Tolerances: The Good, The Bad, and The Ugly, Part 1 of 2	GOVERNOR'S SQUARE 15
	SHM Real-Life Applications, Part 2 of 2	GOVERNOR'S SQUARE 11
	Use of FRP Reinforcement in New Concrete Columns, Part 1 of 2	GOVERNOR'S SQUARE 14
1:30 pm - 3:30 pm—*Sessions*		
	Deflections and Construction Tolerances: The Good, The Bad, and The Ugly, Part 2 of 2	GOVERNOR'S SQUARE 15
	Natural Pozzolans for Sustainable Construction, Part 2 of 2	GOVERNOR'S SQUARE 12
	Proportioning with Ground Limestone and Mineral Filler, Part 2 of 2	GOVERNOR'S SQUARE 11
	Use of FRP Reinforcement in New Concrete Columns, Part 2 of 2	GOVERNOR'S SQUARE 14
6:30 pm - 8:00 pm		
	President's Reception (by invitation only)	PLAZA BALLROOM F

Thursday, November 12, 2015		
8:00 am - 5:00 pm		
	✓ACI 318-14: Building Code Seminar	GOVERNOR'S SQUARE 10
12:45 pm - 5:00 pm		
BOD	Board of Direction	GOVERNOR'S SQUARE 12

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
ACI-Fdn	ACI Foundation	Wed	9:00 am - 11:30 am	PLAZA COURT 5
BOD	Board of Direction	Thu	12:45 pm - 5:00 pm	GOVERNOR'S SQUARE 12
CC	Convention Committee	Tue	3:00 pm - 4:00 pm	TOWER COURT C
CAC	Chapter Activities	Mon	2:00 pm - 5:00 pm	TOWER COURT D
CLC	Construction Liaison	Sun	8:00 am - 10:30 am	DIRECTOR'S ROW H
CPC	Certification Programs	Tue	2:00 pm - 5:00 pm	DIRECTOR'S ROW I
CRC	Concrete Research Council	Tue	11:00 am - 1:00 pm	TOWER COURT C
CSAO	Committee on Codes & Standards Advocacy & Outreach	Mon	3:30 pm - 5:00 pm	PLAZA COURT 7
C601	New Certification Program	Mon	3:00 pm - 4:30 pm	PLAZA COURT 5
C601-B	Concrete Quality Technical Mgr	Wed	10:00 am - 12:00 pm	DIRECTOR'S ROW F
C601-D	Decorative Concrete Finisher	Sun	10:00 am - 11:30 am	TOWER COURT B
C601-E	Concrete Construction Sustainability Assessor	Tue	7:30 am - 9:00 am	DIRECTOR'S ROW F
C601-F	Nondestructive Testing Technician	Mon	1:00 pm - 3:00 pm	GOVERNOR'S SQUARE 10
C601-G	Self-Consolidating Concrete Testing	Mon	11:30 am - 1:00 pm	DIRECTOR'S ROW I
C601-H	Cement Testing	Wed	7:00 am - 8:30 am	PLAZA COURT 4
C601-I	Shotcrete Inspector	Sun	1:00 pm - 2:30 pm	DIRECTOR'S ROW I
C601-J	Adhesive Anchor Installation Inspector	Mon	4:30 pm - 5:30 pm	PLAZA COURT 5
C610	Field Technician Cert	Mon	8:30 am - 11:00 am	PLAZA BALLROOM F
C620	Laboratory Tech Cert	Tue	8:00 am - 9:30 am	TOWER COURT D
C630	Construction Inspector Cert	Mon	1:00 pm - 2:30 pm	DIRECTOR'S ROW F
C631	Conc Transportation Const Insp	Tue	10:00 am - 11:30 am	GOVERNOR'S SQUARE 10
C640	Craftsman Cert	Sun	11:00 am - 1:00 pm	GOLD
C650	Tilt-Up Constructor Cert	Sun	11:00 am - 12:30 pm	PLAZA COURT 8
C655	Foundation Constructor Certification	Mon	11:30 am - 1:00 pm	TOWER COURT D
C660	Shotcrete Nozzleman Cert	Sun	10:00 am - 12:00 pm	TOWER COURT A
C670	Masonry Technician Certification	Wed	8:30 am - 10:00 am	PLAZA COURT 4
C680	Adhesive Anchor Installer	Tue	12:30 pm - 2:00 pm	TOWER COURT B
EAC	Educational Activities M1	Sat	1:00 pm - 5:00 pm	PLAZA COURT 6
EAC	Educational Activities M2	Tue	10:00 am - 12:00 pm	SPRUCE
E701	Materials for Concrete Construction	Sun	9:00 am - 10:30 am	GOLD
E702	Designing Concrete Structures	Mon	5:00 pm - 6:30 pm	TOWER COURT B
E703	Concrete Construction Practices	Mon	5:00 pm - 7:00 pm	PLAZA COURT 4
E706	Concrete Repair Education	Sun	8:00 am - 10:00 am	TOWER COURT C
E707	Specification Education	Tue	11:30 am - 1:00 pm	TERRACE
HTC	Hot Topic	Sun	2:30 pm - 4:00 pm	TOWER COURT A
IAC	International Advisory Committee	Tue	9:00 am - 11:30 am	DIRECTOR'S ROW E
IC-Conf	International Conferences	Mon	7:15 am - 8:30 am	PLAZA COURT 4
IC-Cert	International Certification	Sun	1:30 pm - 3:00 pm	GOVERNOR'S SQUARE 10
Intl-Frm	ACI International Forum	Sun	10:00 am - 11:30 am	GOVERNOR'S SQUARE 14

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
IPAC	International Project Awards Committee	Tue	7:00 am - 8:30 am	TOWER COURT C
ITG-9	ITG-9 Concrete Wind Turbine Towers	Mon	7:00 am - 8:30 am	PLAZA COURT 7
ITG-10	ITG-10 Alternative Cementitious Materials	Sun	10:30 am - 1:30 pm	SPRUCE
MEMC	Membership	Sun	2:00 pm - 4:00 pm	TERRACE
MKTC	Marketing	Mon	2:00 pm - 5:00 pm	CENTURY
PUBC	Publications	Tue	9:30 am - 11:00 am	PLAZA COURT 7
SYPAC	Student and Young Professional Activities	Wed	7:00 am - 9:00 am	PLAZA COURT 2
S801	Student Activities	Sun	8:00 am - 10:00 am	DIRECTOR'S ROW E
S802	Teaching Methods and Educational Materials	Mon	8:30 am - 9:30 am	PLAZA COURT 7
S805	ACI Collegiate Concrete Council-CLGE	Sun	4:00 pm - 5:30 pm	GRAND BALLROOM I
S806	Young Professional Activities	Tue	2:00 pm - 3:30 pm	CENTURY
TAC	Technical Activities M1	Fri	6:30 pm - 9:00 pm	GOVERNOR'S SQUARE 10
TAC	Technical Activities M2	Sat	7:00 am - 6:00 pm	PLAZA BALLROOM D
TAC	Technical Activities M3	Sun	7:00 am - 2:00 pm	PLAZA BALLROOM D
TAC-RG1	TAC Review Group 1	Sun	8:00 am - 11:00 am	PLAZA COURT 5
TAC-RG2	TAC Review Group 2	Sun	8:00 am - 11:00 am	PLAZA COURT 2
TAC-RG3	TAC Review Group 3	Sun	8:00 am - 11:00 am	PLAZA COURT 3
TAC-RG4	TAC Review Group 4	Sun	8:00 am - 11:00 am	PLAZA COURT 4
TCSC	TAC Construction Standards	Wed	7:30 am - 10:00 am	TOWER COURT C
TG2030	Board Outlook 2030 Task Group	Wed	8:30 am - 11:30 am	PLAZA COURT 3
TRRC	TAC Repair & Rehab	Tue	7:00 am - 8:30 am	TOWER COURT A
TTAG	Technology Transfer Advisory Group	Tue	6:30 am - 8:00 am	DIRECTOR'S ROW J
117	Tolerances	Tue	8:30 am - 11:30 am	DIRECTOR'S ROW I
118	Use of Digital Technology	Tue	2:00 pm - 3:30 pm	TOWER COURT D
120	History	Tue	1:30 pm - 3:00 pm	VAIL
121	Quality Assurance	Sun	3:00 pm - 5:30 pm	PLAZA COURT 8
122	Energy Efficiency	Mon	1:00 pm - 3:00 pm	PLAZA COURT 5
123	Research	Sun	4:00 pm - 5:30 pm	TOWER COURT C
124	Aesthetics	Mon	12:30 pm - 1:30 pm	DIRECTOR'S ROW J
130	Sustainability M1	Mon	2:00 pm - 5:00 pm	PLAZA BALLROOM D
130	Sustainability M2	Tue	11:00 am - 1:00 pm	SILVER
130-A	Materials	Mon	8:30 am - 10:00 am	PLAZA BALLROOM D
130-D	Rating Systems/Sustainability Tools	Tue	2:00 pm - 4:00 pm	PLAZA BALLROOM F
130-E	Design/Specifications/Codes/Regulations	Tue	9:30 am - 11:00 am	TOWER COURT C
130-F	Social Issues	Sun	12:30 pm - 2:00 pm	TOWER COURT D
130-G	Education/Certification	Tue	7:30 am - 9:00 am	CENTURY
130-H	Climate Change Impacts on the Sustainability of Concrete	Sun	8:00 am - 10:00 am	CENTURY
131	BIM	Tue	3:00 pm - 5:00 pm	VAIL
131-TG	MVD Task Group	Sat	8:00 am - 5:00 pm	GOVERNOR'S SQUARE 10
132	Responsibility	Sun	2:00 pm - 5:00 pm	PLAZA BALLROOM D

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
133	Disaster Reconnaissance	Sun	12:30 pm - 3:30 pm	CENTURY
201	Durability	Tue	8:00 am - 11:00 am	DIRECTOR'S ROW H
201-D	Durability-Oversight Committee	Mon	11:30 am - 1:00 pm	PLAZA COURT 4
201-TG1	Aggressive Chemicals	Mon	3:00 pm - 4:00 pm	DENVER
201-TG2	Physical Salt Attack	Sun	11:00 am - 12:00 pm	GOVERNOR'S SQUARE 10
201-TG3	Alkali-Aggregate Reactivity	Sun	12:00 pm - 2:00 pm	DIRECTOR'S ROW E
201-TG4	Impact of Natural and Other Pozzolans on Durability	Sun	12:00 pm - 2:00 pm	TOWER COURT C
207	Mass Concrete	Mon	10:00 am - 12:30 pm	TOWER COURT B
209	Creep & Shrinkage	Mon	10:00 am - 1:00 pm	PLAZA COURT 6
209-C	Models Applicability and Uncertainty	Sun	11:30 am - 12:30 pm	PLAZA COURT 7
209-D	Numerical Methods and 3D Analyses	Sun	4:30 pm - 5:30 pm	PLAZA COURT 2
211	Proportioning	Wed	8:00 am - 11:00 am	GOVERNOR'S SQUARE 10
211-A	Proportioning-Editorial	Tue	10:00 am - 12:00 pm	PLAZA COURT 3
211-I	Assessing Aggregate Gradation	Tue	1:00 pm - 3:00 pm	TERRACE
211-N	Proportioning-Limestone	Tue	3:00 pm - 4:00 pm	PLAZA COURT 2
211-P	Guide for Selecting Proportions for Pumpable Concrete	Mon	4:00 pm - 5:30 pm	PLAZA COURT 2
211-TG1	Proportioning Concrete with Non Clinker Based Cements	Tue	1:00 pm - 3:00 pm	PLAZA COURT 6
211-TG2	Developing & Using a Three-Point Curve Task Group	Tue	11:30 am - 1:00 pm	DENVER
212	Chemical Admixtures	Mon	2:00 pm - 5:00 pm	TOWER COURT B
213	Lightweight	Tue	1:30 pm - 3:30 pm	SILVER
213-TG	Lightweight - Editorial TG	Tue	11:00 am - 12:30 pm	DIRECTOR'S ROW F
214	Strength Tests	Mon	4:00 pm - 5:30 pm	GOVERNOR'S SQUARE 16
214-A	Document Preparation	Mon	12:30 pm - 2:00 pm	TERRACE
215	Fatigue	Sun	12:30 pm - 2:30 pm	TOWER COURT A
216	Fire Resistance	Mon	10:00 am - 12:00 pm	DENVER
221	Aggregates	Sun	11:30 am - 1:00 pm	DIRECTOR'S ROW H
221-TG	Task Group on AAR	Mon	4:30 pm - 6:30 pm	DIRECTOR'S ROW H
222	Corrosion	Tue	2:00 pm - 5:00 pm	GOVERNOR'S SQUARE 10
223	Shrinkage Compensating	Tue	2:00 pm - 5:00 pm	DIRECTOR'S ROW J
224	Cracking	Sun	2:30 pm - 5:00 pm	DIRECTOR'S ROW I
225	Hydraulic Cements	Mon	1:00 pm - 5:00 pm	PLAZA COURT 4
228	Nondestructive Testing	Sun	9:30 am - 12:30 pm	PLAZA BALLROOM E
228-B	Visual Inspection	Sun	1:00 pm - 3:00 pm	TOWER COURT B
229	Controlled Low Strength	Tue	2:00 pm - 5:00 pm	GOVERNOR'S SQUARE 17
230	Soil Cement	Tue	8:00 am - 9:30 am	DENVER
231	Early Age	Mon	2:00 pm - 4:00 pm	GOVERNOR'S SQUARE 16
232	Fly Ash in Concrete	Mon	1:00 pm - 4:00 pm	SILVER
233	Slag Cement	Tue	2:00 pm - 5:00 pm	TOWER COURT B
234	Silica Fume	Tue	2:00 pm - 4:30 pm	SPRUCE

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
235	Electronic Data Exchange	Mon	4:00 pm - 5:30 pm	SILVER
236	Material Science	Mon	4:30 pm - 5:30 pm	PLAZA BALLROOM E
236-TG1	Advanced Analysis Techniques for Concrete	Sun	3:00 pm - 4:00 pm	GRAND BALLROOM I
237	Self-Consolidating Concrete	Mon	8:15 am - 11:00 am	PLAZA BALLROOM E
237-TG1	Self-Consolidating Concrete Task Group	Sun	12:00 pm - 4:30 pm	COLORADO
238	Workability of Fresh Concrete	Tue	8:00 am - 10:00 am	GOVERNOR'S SQUARE 10
238-A	Student Workability	Tue	10:00 am - 11:30 am	TERRACE
239	Ultra-High Performance Concrete	Mon	3:30 pm - 5:30 pm	VAIL
239-A	Emerging Technology Report	Sun	1:00 pm - 3:00 pm	PLAZA COURT 7
239-C	Structural Design on UHPC	Mon	10:30 am - 12:30 pm	SILVER
240	Natural Pozzolans	Mon	10:00 am - 1:00 pm	DIRECTOR'S ROW H
241	Nanotechnology of Concrete M1	Sun	4:00 pm - 5:30 pm	GOLD
241	Nanotechnology of Concrete M2	Tue	1:00 pm - 3:00 pm	PLAZA COURT 7
301	Specifications M1	Sat	1:00 pm - 5:00 pm	GOVERNOR'S SQUARE 12
301	Specifications M2	Sun	8:30 am - 11:30 am	SILVER
301	Specifications M3	Sun	12:30 pm - 5:30 pm	SILVER
301	Specifications M4	Mon	12:30 pm - 6:00 pm	MAJESTIC BALLROOM
301-A	Spec-Gen Req, Definitions, & Tolerances	Mon	8:30 am - 12:00 pm	PLAZA COURT 2
301-B	Spec-Formwork & Reinforcement	Sun	12:30 pm - 4:30 pm	PLAZA COURT 4
301-C	Spec-Placing Consolidating & Curing	Sun	1:00 pm - 5:00 pm	GOVERNOR'S SQUARE 17
301-D	Spec-Lightweight & Massive Concrete	Sun	1:00 pm - 5:00 pm	PLAZA COURT 3
301-E	Spec-Post-Tensioned Concrete	Sun	3:00 pm - 5:00 pm	DIRECTOR'S ROW G
301-F	Spec-Precast Concrete Panels	Mon	9:00 am - 12:00 pm	TERRACE
301-G	Spec-Shrink Comp Conc & Ind Floor Slabs	Sun	1:00 pm - 5:00 pm	PLAZA COURT 5
301-H	Spec-Tilt-Up Constr & Arch Conc	Sun	1:00 pm - 2:00 pm	DIRECTOR'S ROW J
301-SC	Spec-Steering Committee	Sun	7:00 am - 8:15 am	DIRECTOR'S ROW F
302	Floor Construction	Mon	8:30 am - 1:00 pm	GRAND BALLROOM II
303	Architectural CIP	Wed	8:30 am - 10:30 am	TOWER COURT A
304	Measuring/Mix/Trans/Placing	Mon	11:30 am - 1:00 pm	TOWER COURT C
305	Hot Weather	Sun	2:00 pm - 4:00 pm	TOWER COURT C
306	Cold Weather	Tue	8:30 am - 11:30 am	DIRECTOR'S ROW J
307	Chimneys	Mon	2:00 pm - 5:00 pm	TERRACE
308	Curing	Wed	10:00 am - 1:00 pm	DIRECTOR'S ROW E
308-A	Curing-Guide	Wed	8:00 am - 10:00 am	DIRECTOR'S ROW E
308-B	Curing-Specifications	Tue	4:00 pm - 5:30 pm	DENVER
309	Consolidation	Sun	3:00 pm - 4:30 pm	PLAZA COURT 2
310	Decorative Concrete	Sun	3:00 pm - 5:30 pm	DIRECTOR'S ROW J
310/308-TG2	Curing Decorative Concrete Joint TG	Sun	2:00 pm - 3:00 pm	DIRECTOR'S ROW J
310-J	Polished Finishes	Tue	10:00 am - 11:30 am	TOWER COURT D
311	Inspection	Tue	12:30 pm - 2:00 pm	PLAZA COURT 5

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
314	Simplified Design Buildings	Sun	8:30 am - 10:00 am	GOVERNOR'S SQUARE 10
315	Detailing	Sun	2:00 pm - 5:00 pm	TOWER COURT D
318	Building Code	Wed	8:00 am - 6:00 pm	PLAZA BALLROOM E
318-A	General Concrete Constr	Tue	1:30 pm - 6:00 pm	GOLD
318-B	Anchorage and Reinforcement	Tue	8:00 am - 12:30 pm	PLAZA BALLROOM F
318-C	Serviceability/Safety M1	Mon	2:00 pm - 5:00 pm	TOWER COURT C
318-C	Serviceability/Safety M2	Tue	8:00 am - 12:30 pm	GOVERNOR'S SQUARE 17
318-D	Members	Tue	1:30 pm - 6:00 pm	PLAZA COURT 3
318-E	Section and Member Strength	Tue	8:00 am - 12:30 pm	MAJESTIC BALLROOM
318-F	Foundations	Tue	8:00 am - 12:30 pm	PLAZA COURT 4
318-G	Precast and Prestressed Concrete	Tue	8:00 am - 12:30 pm	VAIL
318-H	Seismic Provisions	Tue	1:30 pm - 6:00 pm	MAJESTIC BALLROOM
318-J	Joints and Connections	Tue	1:30 pm - 6:00 pm	PLAZA COURT 4
318-L	International Liaison	Mon	2:30 pm - 4:00 pm	DIRECTOR'S ROW F
318-R	High Strength Reinforcement	Tue	1:30 pm - 6:00 pm	DIRECTOR'S ROW E
318-S	Spanish Translation	Mon	11:00 am - 12:30 pm	SPRUCE
325	Pavements	Tue	3:30 pm - 5:30 pm	SILVER
325-A	Pavements-Design	Tue	9:00 am - 10:00 am	CENTURY
325-C	Pavements-Prestressed and Precast	Tue	10:30 am - 12:00 pm	PLAZA COURT 6
325-D	Proportioning for Pavements	Tue	1:00 pm - 3:00 pm	PLAZA COURT 2
325-E	Accelerated Paving	Tue	2:00 pm - 3:30 pm	PLAZA COURT 5
325-F	Concrete Pavement Overlays	Tue	12:00 pm - 1:00 pm	PLAZA COURT 6
327	RCC Pavements	Tue	11:00 am - 1:00 pm	PLAZA COURT 7
329	Perf. Ready Mixed	Wed	9:30 am - 11:30 am	TOWER COURT B
330	Parking Lots & Site Paving	Wed	8:00 am - 12:00 pm	TOWER COURT D
332	Residential Concrete	Tue	1:30 pm - 5:00 pm	DIRECTOR'S ROW H
332-B	Conc Mtrls and Plcmnt	Tue	9:00 am - 10:30 am	GOLD
332-D	Residential Conc-Footings & Foundation Walls	Tue	9:00 am - 10:30 am	PLAZA COURT 6
332-E	Residential Concrete-Above Grade Walls	Tue	11:30 am - 1:00 pm	DIRECTOR'S ROW J
332-F	Residential Concrete-Slabs	Tue	10:30 am - 12:00 pm	GOLD
334	Shells	Mon	5:00 pm - 7:00 pm	PLAZA COURT 3
335	Composite and Hybrid Structures	Sun	11:30 am - 1:00 pm	DIRECTOR'S ROW I
336	Footings	Sun	1:00 pm - 5:00 pm	PLAZA COURT 6
341	Earthquake-Resistant Bridges	Sun	3:00 pm - 5:00 pm	VAIL
341-A	Equake Res Brdgs-Columns	Sun	9:30 am - 11:00 am	VAIL
341-B	Equake Res Brdgs-Pier Walls	Sun	11:00 am - 12:30 pm	VAIL
341-C	Equake Res Brdgs-Retrofit	Sun	1:30 pm - 3:00 pm	VAIL
341-D	Perf Based Seismic Design	Sun	8:00 am - 9:30 am	VAIL
342	Bridge Evaluation	Sun	8:30 am - 10:00 am	TERRACE
343	Bridge Design	Mon	10:00 am - 12:00 pm	PLAZA BALLROOM D

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
343-G	Editorial	Sun	10:00 am - 11:00 am	PLAZA COURT 8
345	Bridge Construction	Sun	1:30 pm - 3:30 pm	SPRUCE
346	CIP Pipe	Mon	11:30 am - 1:00 pm	PLAZA COURT 5
347	Formwork M1	Sat	2:00 pm - 9:00 pm	GOVERNOR'S SQUARE 14
347	Formwork M2	Sun	9:00 am - 1:00 pm	GOVERNOR'S SQUARE 16
348	Safety	Mon	2:00 pm - 3:30 pm	PLAZA COURT 7
349	Nuclear Structures	Tue	1:30 pm - 5:00 pm	GRAND BALLROOM II
349/359/370-TG	349/359/370 Joint Task Group	Tue	10:30 am - 12:30 pm	GOVERNOR'S SQUARE 16
349-AB	Nuclear Structures-Design & Materials	Mon	1:00 pm - 4:30 pm	PLAZA BALLROOM E
349-C	Nuclear Str-Anchorage	Mon	8:00 am - 11:00 am	GOVERNOR'S SQUARE 16
350	Environmental Structures M1	Tue	8:00 am - 12:30 pm	GRAND BALLROOM II
350	Environmental Structures M2	Wed	8:00 am - 4:00 pm	PLAZA BALLROOM D
350-A	Env Str-General & Concrete	Tue	1:00 pm - 5:00 pm	DIRECTOR'S ROW F
350-B	Env Str-Durability	Mon	8:30 am - 1:00 pm	CENTURY
350-C	Env Str-Reinf & Devel	Sun	8:30 am - 11:30 am	DENVER
350-D	Env Str-Structural	Mon	8:30 am - 6:30 pm	GOLD
350-E	Env Str-Precast/Prestressed	Sun	1:00 pm - 5:00 pm	GOVERNOR'S SQUARE 16
350-F	Env Str-Seismic	Tue	1:00 pm - 3:30 pm	TOWER COURT A
350-H	Env Str-Editorial	Mon	12:30 pm - 2:00 pm	PLAZA COURT 7
350-J	Env Str-Education	Mon	1:00 pm - 3:00 pm	PLAZA COURT 6
350-SC	Env Str-Steering Comm	Sun	11:30 am - 1:00 pm	DIRECTOR'S ROW J
351	Equip Foundations	Tue	4:00 pm - 6:00 pm	TOWER COURT A
351-C	Equip Fdns-Dynamic Fdns	Mon	4:00 pm - 6:00 pm	DENVER
351-D	Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures	Mon	2:00 pm - 4:00 pm	PLAZA COURT 2
352	Joints	Sun	2:00 pm - 5:00 pm	DIRECTOR'S ROW E
352-TG1	Slab-Column Joints & Connections	Mon	3:00 pm - 4:30 pm	DIRECTOR'S ROW J
352-TG2	Beam-Column Joints & Connections	Mon	1:30 pm - 3:00 pm	DIRECTOR'S ROW J
355	Anchorage	Sun	1:30 pm - 5:00 pm	PLAZA BALLROOM F
357	Offshore & Marine	Tue	9:30 am - 11:30 am	DENVER
360	Slabs on Ground	Mon	2:00 pm - 6:30 pm	GRAND BALLROOM II
362	Parking Structures	Mon	1:00 pm - 5:00 pm	GOVERNOR'S SQUARE 17
362-A	Updating Guide to Struct Maint of Pkg Struct Doc	Sun	1:00 pm - 4:00 pm	DIRECTOR'S ROW H
363	High-Strength	Sun	2:30 pm - 5:00 pm	MAJESTIC BALLROOM
363-A	High-Strength Lightweight Concrete	Tue	3:30 pm - 5:00 pm	CENTURY
364	Rehabilitation	Mon	1:00 pm - 4:00 pm	DIRECTOR'S ROW H
364-A	Editorial Subcommittee	Mon	9:30 am - 11:00 am	PLAZA COURT 7
364-TG1	Rehab Guide	Mon	11:00 am - 12:00 pm	PLAZA COURT 7
365	Service Life	Mon	9:00 am - 11:00 am	TOWER COURT C

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
369	Seismic Rehab M1	Sun	10:00 am - 12:00 pm	DIRECTOR'S ROW E
369	Seismic Rehab M2	Sun	1:00 pm - 4:00 pm	GOLD
369	Seismic Rehab M3	Mon	2:00 pm - 6:00 pm	TOWER COURT A
370	Blast and Impact Load Effects	Sun	3:00 pm - 5:00 pm	TOWER COURT B
371	Elevated Tanks with Concrete Pedestals	Mon	3:00 pm - 5:00 pm	PLAZA COURT 6
372	Tanks Wrapped Wire/Strand	Tue	3:00 pm - 5:00 pm	PLAZA COURT 7
374	Seismic Design	Mon	8:30 am - 12:00 pm	MAJESTIC BALLROOM
375	Design for Wind Loads	Mon	1:00 pm - 3:30 pm	DIRECTOR'S ROW I
376	RLG Containment Structures	Mon	1:00 pm - 4:00 pm	SPRUCE
376-01	Steering Subcommittee	Sun	10:30 am - 12:00 pm	PLAZA COURT 6
376-A	Code, Education & Publication Subcommittee	Mon	10:00 am - 12:00 pm	DIRECTOR'S ROW F
376-B	Materials Subcommittee	Sun	1:00 pm - 3:00 pm	PLAZA COURT 2
376-C	Analysis Subcommittee	Sun	3:00 pm - 5:00 pm	PLAZA COURT 7
376-D	Design & Construction Subcommittee	Mon	8:00 am - 10:00 am	DIRECTOR'S ROW F
377	Performance-Based Structural Integrity & Resilience of Concrete Structures	Mon	10:00 am - 12:30 pm	PLAZA COURT 3
408	Bond and Development of Steel Reinforcement	Sun	8:30 am - 11:30 am	DIRECTOR'S ROW I
408-A	Mech Splices	Sun	8:00 am - 8:30 am	DIRECTOR'S ROW I
421	Reinf Slabs	Sun	10:00 am - 1:00 pm	PLAZA BALLROOM F
423	Prestressed	Mon	8:30 am - 12:30 pm	VAIL
423/445	Adhoc Grp on Shear in Prestress Conc	Sun	4:00 pm - 5:30 pm	DIRECTOR'S ROW H
423-C	Corrsn & Repr Grtd Tendons	Sun	4:00 pm - 5:00 pm	TOWER COURT A
423-F	Sustainable Prestressed Concrete	Sun	1:00 pm - 3:00 pm	PLAZA COURT 8
423-TG1	Unbonded Tendons Task Group	Sun	3:00 pm - 5:00 pm	DIRECTOR'S ROW F
435	Deflection	Mon	3:00 pm - 6:00 pm	GOVERNOR'S SQUARE 10
437	Strength Evaluation	Mon	10:30 am - 12:30 pm	GOVERNOR'S SQUARE 10
439	Steel Reinforcement	Mon	8:30 am - 10:30 am	GOVERNOR'S SQUARE 10
439-A	Steel Reinf-Wire	Sun	3:30 pm - 5:00 pm	SPRUCE
440	Fiber-Reinforced Polymer	Tue	8:00 am - 11:00 am	GRAND BALLROOM I
440-E	FRP-Prof Education	Mon	1:30 pm - 3:00 pm	DENVER
440-F	FRP-Repair-Strengthening	Mon	8:30 am - 12:30 pm	GRAND BALLROOM I
440-H	FRP-Reinforced Concrete	Mon	3:00 pm - 6:00 pm	GRAND BALLROOM I
440-J	FRP Stay-in-Place Forms	Sun	1:00 pm - 3:00 pm	PLAZA BALLROOM E
440-M	FRP-Repair of Masonry Str	Sun	8:30 am - 11:00 am	GRAND BALLROOM II
440-TG2	Repair Construction Specification	Sun	3:00 pm - 5:00 pm	PLAZA BALLROOM E
441	Columns	Mon	11:30 am - 2:00 pm	PLAZA BALLROOM F
441-A	High-Strength Conc	Mon	8:00 am - 9:00 am	PLAZA COURT 6
441-B	Lateral Reinf	Mon	9:00 am - 10:00 am	PLAZA COURT 6
441-E	Columns Multi-Spiral Reinf	Sun	11:30 am - 1:00 pm	DIRECTOR'S ROW F
444	Structural Health Monitoring and Instrumentation	Tue	8:00 am - 10:00 am	TERRACE

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
445	Shear & Torsion-Joint ACI-ASCE	Mon	2:00 pm - 6:00 pm	PLAZA BALLROOM F
445-A	Shear & Torsion-Strut & Tie	Sun	9:30 am - 12:30 pm	TOWER COURT D
445-B	Shear & Torsion-Seismic Shear	Sun	9:30 am - 11:30 am	PLAZA COURT 7
445-C	Shear & Torsion-Punching Shear	Sun	1:00 pm - 3:00 pm	DIRECTOR'S ROW F
445-D	Shear & Torsion-Shear Databases	Sun	2:00 pm - 5:00 pm	DENVER
445-E	Shear & Torsion-Torsion	Sun	12:30 pm - 2:00 pm	DENVER
446	Fracture Mechanics	Mon	8:30 am - 10:00 am	GOVERNOR'S SQUARE 17
447	Finite Element Analysis	Mon	11:00 am - 1:30 pm	GOVERNOR'S SQUARE 16
447-TG	Finite Element Analysis Task Group	Mon	5:00 pm - 6:30 pm	PLAZA COURT 6
506	Shotcreting	Tue	8:30 am - 11:30 am	PLAZA BALLROOM D
506-A	Shotcreting-Evaluation	Mon	1:30 pm - 3:00 pm	PLAZA COURT 3
506-B	Shotcreting-Fiber-Reinforced	Mon	3:30 pm - 5:00 pm	DIRECTOR'S ROW I
506-C	Shotcreting-Guide	Mon	8:30 am - 10:30 am	DIRECTOR'S ROW J
506-E	Shotcreting-Specifications	Mon	10:30 am - 12:30 pm	DIRECTOR'S ROW J
506-F	Shotcreting-Underground	Mon	4:30 pm - 5:30 pm	DIRECTOR'S ROW J
515	Protective Systems	Tue	9:00 am - 11:00 am	DIRECTOR'S ROW F
522	Pervious Concrete	Tue	8:00 am - 11:00 am	SILVER
523	Cellular Concrete	Tue	8:30 am - 10:30 am	GOVERNOR'S SQUARE 16
524	Plastering	Mon	8:30 am - 10:00 am	TOWER COURT D
526	Autoclaved Aerated Concrete	Tue	10:30 am - 1:00 pm	TOWER COURT A
533	Precast Panels	Mon	8:30 am - 10:00 am	DENVER
543	Piles	Mon	8:30 am - 11:30 am	PLAZA COURT 4
544	Fiber-Reinforced Concrete	Tue	3:00 pm - 5:30 pm	GRAND BALLROOM I
544-A	FRC-Education Production Application	Mon	10:00 am - 1:00 pm	GOVERNOR'S SQUARE 17
544-C	FRC-Testing	Tue	1:30 pm - 3:00 pm	GRAND BALLROOM I
544-D	FRC-Structural Uses	Tue	11:30 am - 1:00 pm	TOWER COURT D
544-E	FRC-Mechanical Properties	Mon	5:00 pm - 6:30 pm	TERRACE
544-F	FRC-Durability	Tue	10:30 am - 12:00 pm	PLAZA BALLROOM E
544-SC	FRC-Steering Committee	Mon	8:30 am - 10:00 am	TOWER COURT B
546	Repair	Mon	8:30 am - 10:30 am	SILVER
546-D	Bagged Materials	Sun	10:00 am - 11:00 am	COLORADO
546-E	Corrosion Studies	Sun	11:00 am - 12:00 pm	COLORADO
548	Polymers	Tue	8:30 am - 11:30 am	PLAZA COURT 2
548-A	Polymers-Overlays	Mon	8:15 am - 11:00 am	SPRUCE
548-B	Polymers-Adhesives	Mon	3:00 pm - 5:00 pm	PLAZA COURT 3
548-C	Structural Polymer Design	Mon	11:00 am - 12:30 pm	TOWER COURT A
549	Thin Reinforced	Sun	11:00 am - 1:00 pm	GOVERNOR'S SQUARE 17
550	Precast Structures	Sun	3:00 pm - 5:00 pm	GOVERNOR'S SQUARE 10
551	Tilt-Up	Sun	9:00 am - 11:00 am	GOVERNOR'S SQUARE 17
552	Cementitious Grouting	Tue	4:00 pm - 5:30 pm	TERRACE

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
555	Recycled	Mon	5:00 pm - 6:30 pm	DIRECTOR'S ROW I
560	Design & Constr ICFs	Tue	8:30 am - 10:30 am	PLAZA BALLROOM E
562	Eval, Repair & Rehab	Sun	1:00 pm - 5:00 pm	GRAND BALLROOM II
562-A	General	Sat	10:00 am - 4:00 pm	PLAZA COURT 4
562-B	Loads	Sun	8:00 am - 10:00 am	COLORADO
562-C	Evaluation M1	Sat	4:00 pm - 5:00 pm	PLAZA COURT 4
562-C	Evaluation M2	Sat	6:00 pm - 8:00 pm	PLAZA COURT 4
562-D	Design M1	Sat	8:00 am - 12:00 pm	PLAZA COURT 5
562-D	Design M2	Sat	1:00 pm - 2:00 pm	PLAZA COURT 5
562-E	Education	Mon	8:00 am - 10:00 am	PLAZA COURT 3
562-F	Durability	Sat	6:00 pm - 9:00 pm	PLAZA COURT 5
563	Specs for Repair of Struct Conc in Bldgs	Tue	1:00 pm - 5:00 pm	GOVERNOR'S SQUARE 16

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Sunday, November 8, 2015

5:00 am and 6:00 am

Run/Walk Meet-Up—SHERATON LOBBY

Looking for a running or walking partner? This is a great opportunity to meet up with other ACI attendees before heading out for your morning run or walk. Local area maps are available at the hotel concierge desk. All are welcome!
**Please consult your physician to determine if you are fit for this type of activity. Run/walk at your own risk.*

7:00 am – 10:00 am

★Guest Hospitality—WINDOWS

Coffee and tea will be available for guests each morning (Sunday-Wednesday). You must be a registered guest to attend. In your name badge, there will be a $5 breakfast voucher for each day of the convention (Sunday-Wednesday). These vouchers may be redeemed between 7:00 am and 10:00 am at 15|Fifty Restaurant and Peet's Coffee & Tea located in the Sheraton hotel. Vouchers may only be used on the day specified, cannot be redeemed for cash, and may only be used by ACI Convention guests.

8:00 am – 9:00 am

★Guest Overview—WINDOWS

Acquaint yourself with the week ahead and get a preview of things to do in Milwaukee, WI, and Philadelphia, PA—the next two locations for The ACI Concrete Convention and Exposition.

8:00 am – 9:00 am

Convention Orientation Breakfast—GRAND BALLROOM I

Speaker: Lawrence Homer Taber
Structural Engineer
Black & Veatch
Overland Park, KS

First-time convention attendees are invited to join Lawrence Homer Taber, 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 first-time convention attendees, connect with convention mentors, and learn about what the ACI Convention has to offer.

10:00 am – 11:30 am

ACI International Forum—GOVERNOR'S SQUARE 14

Chaired by ACI Vice President Michael J. Schneider

The ACI International Forum provides an opportunity for convention attendees to meet and learn from ACI international partners, ACI chapter representatives, and ACI leadership about worldwide events, activities, initiatives, and common themes of interest to the concrete materials, design, and construction industry. The Forum will include a presentation and a group discussion on the "Chartered Concrete Engineer" concept, followed by speakers including Maher Barrak, Lebanon Chapter – ACI, Dr. Tor Arne Martius-Hammer, Norwegian Concrete Institute, and others.

10:00 am – 5:00 pm

★Guest Lounge—WINDOWS

Stop by the Guest Lounge to relax and meet other ACI Convention guests. Guests can enjoy the Guest Lounge Sunday-Wednesday. Coffee and tea will be available from 7:00 am – 10:00 am (Sunday-Wednesday).

11:00 am – 4:00 pm

ACI Pervious Concrete Student Competition—PLAZA EXHIBIT HALL

Sponsored by ACI Committee S801, Student Activities, and ACI Committee 522, Pervious Concrete
Competition Moderator: Walter H. Flood IV
Manager – Engineer
Flood Testing Labs, Inc.
Chicago, IL

Teams are challenged to apply sustainability concepts and to use their knowledge of concrete mixture design by producing pervious concrete that balances permeability and splitting tensile strength. Teams are additionally challenged to develop a mixture design that demonstrates cementitious efficiency—that is, maintaining the overall performance of the mixture with the lowest amount of cementitious material. Check-in for this competition begins at 8:00 am.

11:30 am – 1:30 pm

✓International Lunch—GRAND BALLROOM I

$30 U.S. per person
Sponsored by the ACI International Advisory Committee

Speaker: Robert C. Sinn
Principal
Thornton Tomasetti Inc.
Chicago, IL

Topic: 1-Kilometer-Tall Kingdom Tower: Concrete Reaches New Heights

Convention attendees are invited to add the International Lunch to their convention schedule. Special guest speaker Robert C. Sinn will give a presentation titled "1-Kilometer-Tall Kingdom Tower: Concrete Reaches New Heights." The presentation will focus on the significant technical engineering challenges of designing the world's next tallest building: 1000+ m (3000+ ft) tall Kingdom Tower in Jeddah, Saudi Arabia. A brief overview of the architectural and master planning scheme for the tower and the surrounding developments is presented as an introduction to this unique, groundbreaking project. Important aspects of the geotechnical site exploration program, piled raft foundation design, and significant foundation tower interaction studies are presented, along with long-term settlement predictions, the completed pile load testing program, and ground seismicity studies. The superstructure frame is composed almost entirely of reinforced concrete walls and coupling beams. The structural system was developed based on the need for simplicity and repetition during the construction process. The concrete bearing wall system chosen is unique for ultra-tall tower schemes in that it relies on no outriggers or belt walls, no column transfers, very little differential shortening in vertical elements, and only 85 MPa (12,325 psi) concrete strength. The presentation will focus on the development of the tower structural system including historical precedents, the wind tunnel testing program, and other unique aspects of the tower structural engineering design and construction planning. Particularly critical technical issues such as the prediction of vertical shortening due to the

long-term creep and shrinkage of the concrete frame, and behavioral characteristics of the tower under lateral and gravity loadings are also highlighted. The project is scheduled for completion in late 2015.

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.*

12:30 pm – 4:30 pm

✓*Discover Denver in a Day Tour—DEPART SHERATON MAIN LOBBY*

$56 U.S. per person
Experience two sides of Denver—historic western town and thriving modern city—all on the same tour! From downtown, head east through some of Denver's loveliest residential areas, stopping at two of Denver's more than 200 parks, and get out for pictures at the Denver Museum of Nature and Science. At this point, view the stunning skyline of Denver and the mountains beyond—truly the stuff postcards are made of. Then head past the zoo, the Botanic Gardens, and the Governor's residence. Guests will see Denver's famous sports complexes, the hip lower downtown district, and up to the Capitol Hill area past the Colorado State Capitol building. Guests will no longer be a stranger to the Mile-High City!

Tickets are available for purchase at ACI Registration. ***Tours are nonrefundable.*** *All tours depart from the Sheraton Lobby.*

1:00 pm – 3:00 pm

Cement-Admixture Interaction, Part 1 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committees 212, Chemical Admixtures; 236, Material Science of Concrete; and 238, Workability of Fresh Concrete

Session Moderator: Kamal H. Khayat
Director, Center for Infrastructure Engineering Studies
Missouri S&T
Rolla, MO

Chemical admixtures and various types of cementitious materials and fillers are increasingly being incorporated in modern cement-based materials and have significant influence on the constructability and performance of concrete structures. The interaction of cementitious materials and admixtures has significant effect on concrete performance, including rheology and thixotropy, fluidity retention, stability, hydration kinetics, setting, temperature development, microstructure, and development in mechanical and transport properties. The effect of an admixture is greatly influenced by the chemistry and form of the cementitious materials used and type and composition of the polymers used for the admixture. The session will discuss various test methods that can be used to evaluate early stiffening of cement paste or mortar to anticipate complex cement-admixture interactions. The session will also highlight recent findings aiming at understanding the physical and chemical phenomena affecting the adsorption of chemical admixtures on binder materials and the resulting effects on fresh and hardened properties of concrete. The session should be of interest to researchers, concrete engineers, material suppliers, and students dealing with modern materials design and construction. Attendees will become aware of recent advances in testing techniques and governing mechanisms affecting cement admixture interaction.
By attending this session, attendees will be able to:
1. Learn about physical chemical mechanisms affecting compatibility of chemical admixture and binder systems;
2. Understand the impact of such complex interaction on performance and constructability of cement-based materials;
3. Recognize new test methods to evaluate incompatibility issues; and
4. Select effective techniques to control chemical admixtures and binder incompatibility in concrete practice.

Competitive Adsorption of Polymers: Consequences on Rheology of Concrete—1:00 pm
Hela Bessaies Bey, Researcher, IFSTTAR, Laboratoire Navier, Champs-sur-Marne, France; and **Nicolas Roussel**, IFSTTAR

Cement Admixture Interactions—1:25 pm
Claire (Qiwei) Nowasell, Technical Services Area Manager, Northeast Essroc Italcementi Group, Nazareth, PA; and **Ray B. Henderson**, **Ricardo Valentin**, and **Jeremy Betts**, Esscroc Italcementi Group

Modified ASTM C359 Early Stiffening of Mortar to Anticipate Complex Cement Admixture Interactions—1:50 pm
Ara A. Jeknavorian, President, Jeknavorian Consulting Services, Chelmsford, MA

Measuring Cement Paste Rheology Using a Modified Dynamic Shear Rheometer: An Approach to Detect Cement Admixtures' Incompatibilities—2:15 pm
Anol K. Mukhopadhyay, Research Scientist and Graduate Faculty, Texas A&M Transportation Institute, Texas A&M University, College Station, TX

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Sunday, November 8, 2015

1:00 pm – 3:00 pm

Concrete with Recycled Materials, Part 1 of 2—GOVERNOR'S SQUARE 14

Sponsored by ACI Committee 555, Concrete with Recycled Materials
Session Co-Moderators: Mohamed A. Mahgoub
Associate Professor
New Jersey Institute of Technology
Newark, NJ

Ahmed Ibrahim
Assistant Professor
University of Idaho
Moscow, ID

Concrete is one of the most widely used construction materials in the world. However, the production of portland cement, an essential constituent of concrete, leads to the release of a significant amount of CO_2, a greenhouse gas. One ton of portland cement clinker production is said to create approximately 1 ton of CO_2 and other greenhouse gases. Environmental issues are playing an important role in the sustainable development of the cement and concrete industry. This reduces energy use in the CO_2 emissions from calcinations. A sustainable concrete structure is one which is constructed so that the total environmental impact during its entire life cycle, including during its use, is minimum. Concrete is considered a sustainable material because it has a very low inherent energy requirement, is produced to order as needed with very little waste, is made from some of the most plentiful resources on earth and can be made with recycled materials, and is completely recyclable. High-performance cements and concrete can reduce the amount of cementitious materials and total volume of concrete required. All recycled materials starting from recycled water and recycled waste by-product materials could be implemented in the concrete industry.
By attending this session, attendees will be able to:
1. Demonstrate how to evaluate concrete mixtures with various waste by-product and recycled materials;
2. Recognize many different types of testing that could be performed on new concrete mixtures produced with recycled materials;
3. Explain the various methods to design and validate 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.

Recycled Concrete Aggregate: A Sustainable Choice for Unbound Base—1:00 pm
Cecil L. Jones, President, Diversified Engineering Services Incorporated, Raleigh, NC

Role of Quality of Recycled Concrete Aggregate on Durability and Long-Term Performance of Concrete—1:25 pm
Medhat H. Shehata, Professor, Ryerson University, Toronto, ON, Canada

Benefits of Saturated Recycled Concrete Aggregate Inclusion in Concrete—1:50 pm
Daniel J. Pickel, PhD Candidate, University of Waterloo, Waterloo, ON, Canada

Self-Consolidating Concrete Prepared with Recycled Concrete Aggregate and Recycled Asphalt Pavement—2:15 pm
Yasser A. Khodair, Associate Professor, Bradley University, Peoria, IL; and **Ahmed Abdel-Mohti**, Ohio Northern University

Performance of Concrete Incorporating Various Types of E Waste—2:40 pm
Mohamed N. Abou Zeid, Assistant Professor, The American University, Cairo, Egypt

2 AIA/CES LU

1:00 pm – 3:00 pm

Recent Developments in Two-Way Slabs: Design, Analysis, Construction, and Evaluation—GOVERNOR'S SQUARE 11

Sponsored by Joint ACI-ASCE Committee 421, Design of Reinforced Concrete Slabs
Session Co-Moderators: Myoungsu (James) Shin
Associate Professor
Ulsan National Institute of Science & Technology
Ulsan, South Korea

Mustafa A. Mahamid
Clinical Associate Professor
University of Illinois at Chicago
Chicago, IL

There have been new developments on slab design provisions as related to design for seismic forces, as well as new slab systems that have been introduced to the construction market during the last few years due to the availability of advanced software that are used in the analysis and design of slabs. This session will also highlight important practical issues that need to be considered by engineers when it comes to the analysis and design of two-way slab systems. The session will attract practicing engineers, contractors, professors, manufacturers, and students. The session should cover the recent developments in two-way slabs, including analysis, design, serviceability, and new systems and technologies.
By attending this session, attendees will be able to:
1. Recognize recent research and practice in two-way slab systems;
2. Recognize recent research in slab-column connections;
3. Recognize new technologies in design and construction of reinforced concrete slabs; and
4. Get an overview of and recent research and practical issues in serviceability of reinforced concrete slabs.

Application of a Novel Shear Reinforcing Assembly for Slab Column Connections—1:00 pm
Trevor D. Hrynyk, Assistant Professor, University of Texas at Austin, Austin, TX; and **Oguzhan Bayrak, Gabriel Polo,** and **Mario Glikman,** University of Texas at Austin

Punching Shear Design Method of KCI 2012 Code—1:15 pm
Honggun Park, Professor, Seoul National University, Seoul, South Korea; and **Kyoung Kyu Choi,** Soongsil University

The Critical Shear Crack Theory for Punching Shear Design—1:30 pm
Aurelio Muttoni, Professor, EPFL, Lausanne, Switzerland; and **Miguel Fernandez Ruiz,** Swiss Federal Institute of Technology in Lausanne

Shear and Punching Strength of Reinforced Concrete Slabs with Truncated Pyramid Voids—1:45 pm
Dario Angelo Maria Coronelli, Associate Professor, Polytechnic University of Milan, Milan, Italy

Boundary Condition Effects on Static Response of Ultra-High Performance Concrete (UHPC) Slabs— 2:00 pm
Bradley W. Foust, Research Structural Engineer, U.S. Army Engineer Research and Development Center, Vicksburg, MS; and **Theodor Krauthammer,** University of Florida

Application of Modified Bond Model to Capacity of Ruytenschildt Bridge—2:15 pm
Eva Olivia Leontien Lantsoght, Assistant Professor, Universidad San Francisco de Quito, Quito, Ecuador; **Cor Van Der Veen,** Delft University of Technology; and **Ane de Boer,** Ministry of Infrastructure and the Environment

Punching Shear Systems for Flat Slabs-Evaluation of Tests and Comparison with Codes—2:30 pm
Dominik Kueres, Research Assistant, RWTH Aachen University, Aachen, Germany; **Josef Hegger,** RWTH Aachen University; and **Alaa G. Sherif,** Faculty of Engineering-Mataria-Helwan University

Inclined Stud Shear Reinforcement in Two-Way Slabs—2:45 pm
Walter H. Dilger, Professor Emeritus, University of Calgary, Calgary, AB, Canada; and **Georgios Balomenos, Aikaterini Genikomsou,** and **Mahesh D. Pandey,** University of Waterloo

2 AIA/CES LU

2:00 pm – 4:00 pm

International Session: Development of High-Rise Buildings Around the World—GOVERNOR'S SQUARE 15

Sponsored by ACI International Committee
Session Moderator: Jose M. Izquierdo-Encarnación
Principal
Porticus
San Juan, PR

The last decades has been very exciting in the development of tall and high rise buildings. This session will share challenges in the design and construction of tall structuresin various countries around the world.
By attending this session, attendees will be able to:
1. Describe the advantages on the use on concrete as a main material for the development of tal buildings;
2. Understand the challenges of balancing concrete strength, durability, and pumpability in tall buildings;
3. Explain the challenges, similarities and differences between tall buildings in the Pacific Region, Middle East, and Europe; and
4. Discuss the effects of natural hazards in the development of tall building around th world.

Tall Buildings and the Ring of Fire—2:00 pm
Ronald Klemencic, President, Magnusson Klemencic Associates, Seattle, WA

Balancing Durability, Strength, and Pumpability in 1000 m Tall Buildings—2:30 pm
Khaled Walid Awad, Technical Manager, Advance Construction Technology Services, Beirut, Lebanon

High-Rises in Latin America—3:00 pm
Guillermo Santana, Professor, University of Costa Rica, San Pedro, Costa Rica

High Rise Buildings in Europe. Concrete as Main Protagonist—3:30 pm
Hugo Corres Peiretti, Associate Professor, FHECOR Ingenieros Consultores SA, Madrid, Spain

2 AIA/CES LU

3:30 pm – 5:30 pm

Cement-Admixture Interaction, Part 2 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committees 212, Chemical Admixtures; 236, Material Science of Concrete; and 238, Workability of Fresh Concrete
Session Moderator: Kamal H. Khayat
Director, Center for Infrastructure Engineering Studies
Missouri S&T
Rolla, MO

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 37.

Using Isothermal Calorimetry to Quantify Risk of Cement Admixture System Incompatibilities—3:30 pm
W Jason Weiss, Edwards Distinguished Professor, Oregon State University, Corvallis, OR; and **Mark Neimuth,** Lafarge IPC

Admixtures for Metakaolin—Limestone Cement Concrete—3:55 pm
Behnaz Zaribaf, Graduate Research Assistant, Georgia Institute of Technology, Atlanta, GA; and **Kimberly E. Kurtis,** Georgia Institute of Technology

Influence of Mixing on Cement-Admixture Interactions—4:25 pm
Raissa Ferron, Assistant Professor, University of Texas at Austin, Austin, TX

Retarding Mechanisms of Sucrose and Zinc Oxide on Cement Hydration and Interactions with Supplementary Cementitious Materials—4:55 pm
Feraidon F. Ataie, Assistant Professor, California State University Chico, Chico, CA; **Maria G. Juenger** and **Sarah C. Taylor Lange,** University of Texas at Austin; and **Kyle Austin Riding,** Kansas State University

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Sunday, November 8, 2015

3:30 pm – 5:30 pm

Concrete with Recycled Materials, Part 2 of 2—GOVERNOR'S SQUARE 14

Sponsored by ACI Committee 555, Concrete with Recycled Materials

Session Co-Moderators: Mohamed A. Mahgoub
Associate Professor
New Jersey Institute of Technology
Newark, NJ

Jiong Hu
Assistant Professor
University of Nebraska-Lincoln
Omaha, NE

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 38.

Life-Cycle Analysis of Recycled and Natural Coarse Aggregates in Structural Concrete for the New York City Region—3:30 pm
Ardavan Yazdanbakhsh, Assistant Professor, City College, New York, NY

Concrete Plates Made with Fiber-Reinforced Rubber Concrete—3:50 pm
Alessandro P. Fantilli, Assistant Professor, Polytechnic University of Turin, Torino, Italy

The Sustainable Use of Waste Glass in Portland Cement Concrete—4:10 pm
Kaveh Afshinnia, PhD Candidate, Clemson University, Clemson, SC; and **Prasad R. Rangaraju,** Clemson University

Development of a Stress-Strain Diagram for Recycled Concrete—4:30 pm
Mohamed A. Mahgoub, Associate Professor, New Jersey Institute of Technology, Newark, NJ

Durability and Characteristics of Recycled Aggregates Concrete Produced in Kuwait—4:50pm
Moetaz El-Hawary, Associate Professor, Kuwait University, Kuwait

Structural Performance of Recycled Asphalt Pavement Self-Consolidating Concrete—5:10pm
Ahmed Abedel-Mohti, Associate Professor, Ohio Northern University, Ada, OH; and **Yasser Khodair**, Bradley University

2 AIA/CES LU

3:30 pm – 5:30 pm

Emerging Technologies in Civil Infrastructure—GOVERNOR'S SQUARE 11

Sponsored by the ACI Foundation Strategic Development Council (SDC)

Session Co-Moderators: Steven Kosmatka
Vice President, Research & Technical Services
Portland Cement Association
Skokie, IL

Anik Delagrave
Director of Innovation – Lafarge U.S.
LafargeHolcim U.S.
Pointe-Claire, QC, Canada

The session's aim is to highlight some of the current emerging industry technologies identified by SDC. This particular session will present overviews of newer curing technologies currently or soon to be impacting the concrete industry. They are in various stages of 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.

Solidia Technologies: Combining a Novel Non-Hydraulic Cement Chemistry with a Unique Technology to Cure Concrete with CO_2—3:30 pm
Robert "Bo" Boylan, Vice President Sales & Marketing, Solidia Technologies, Incorporated, Piscataway, New Jersey

Want Low Cost, Sustainable, Longer Lasting Concrete Bridge Decks and Repairs? Then Try Internal Curing—4:00 pm
Jason Weiss, Professor, Oregon State University, Corvallis, OR; and **Dale Bentz,** National Institute of Standards and Technology

Annealing Concrete: Powered by the Retained Heat of Hydration—4:30 pm
Romeo Ciuperca, President, Greencraft LLC, Norcross, GA

Recent Developments in Concrete Curing Monitoring—5:00 pm
Dan Zollinger, Professor, Texas A&M University, College Station, TX

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

5:45 pm – 7:00 pm

Opening Session and Katharine & Bryant Mather Commemorative Lecture Series—PLAZA BALLROOM A-C

Speaker: Ken Hover
Professor of Structural Engineering
Cornell University
Ithaca, NY

Topic: There is More to Concrete (and ACI) than Meets the Eye

The ACI Convention officially begins during the Opening Session and Katharine & Bryant Mather Commemorative Lecture Series on Sunday evening. Dr. Ken Hover will explore the topic "There is More to Concrete (and ACI) than Meets the Eye." The human eye is an extraordinary instrument, with a resolution of about 580 megapixels, but in a single glance, we cannot see the entirety of our largest concrete construction projects, nor can we see the microscopic details that define concrete behavior. And, because what we actually "see" is only a small portion of the broad spectrum of light that reaches our eyes, there is a lot of valuable information just beyond our normal senses. There is likewise a lot more to discover about concrete when we go beyond our traditional roles within ACI to learn how others see this most interesting and complex of all building materials.

Prior to Hover's presentation, ACI President Sharon Wood will welcome attendees, and several individuals and groups will be recognized for their contributions to the concrete industry.

7:00 pm – 8:00 pm

Opening Reception—PLAZA EXHIBIT HALL

Sponsored by the Rocky Mountain Chapter – ACI Convention Committee

Immediately following the Opening Session, attendees are invited to the exhibit hall for this evening reception hosted by the Denver Convention Planning Committee and the Rocky Mountain Chapter – ACI. 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.

8:00 pm – 10:00 pm

Hot Topic Session: Constructability of Projects Designed for 100+ Year Service Life—GOVERNOR'S SQUARE 14

Sponsored by the Hot Topics Committee

Session Moderator: David A. Rothstein
Principal Petrographer
DRP Consulting
Boulder, CO

This Hot Topic Session addresses aspects of construction on projects that demand a 100+-year service life. The session will provide perspectives from the diverse set of players involved in these projects. This includes owners charged with balancing the requirements of the project with the expectations of the public; design engineers who must develop plans and specifications that must address the complexity of the structural, durability, and constructability requirements of the project; contractors who must implement these demands; and materials testing laboratories that need to validate the durability of the materials.
By attending this session, attendees will be able to:
1. Describe the owners' perspective on these projects;
2. Explain how design engineers must satisfy structural and durability requirements;
3. Describe challenges faced by contractors in constructing these projects; and
4. Explain how testing laboratories validate the 100+-year service life from the materials perspective.

What Can the Owner Expect to Get with a 100Year Service Life Specification—8:00pm
Ramon L.Carrasquillo, President, CA Associates, Ltd, Austin, TX

Submittal and QC/QA Reports to Meet Project Service Life Performance Requirements—8:45pm
Paul E. Tourney, President, Tourney Consulting Group, Kalamazoo, MI

100+ Year Concrete Service Life: The Good, The Bad and The Ugly—9:15pm
Oscar R. Antommattei, Senior Concrete Egineer, Kiewitt Infrastructure Engineers, Company, Denver, CO

Panel Discussion—9:45pm

2 AIA/CES LU

9:00 pm – 10:30 pm

Student and Young Professional Networking Event—15 | FIFTY RESTAURANT

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

The ACI Student and Young Professional Activities Committee and ACI Collegiate Concrete Council 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.

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Monday, November 9, 2015

5:00 am and 6:00 am

Run/Walk Meet-Up—SHERATON LOBBY

Looking for a running or walking partner? This is a great opportunity to meet up with other ACI attendees before heading out for your morning run or walk. Local area maps are available at the hotel concierge desk. All are welcome!
**Please consult your physician to determine if you are fit for this type of activity. Run/walk at your own risk.*

6:00 am – 6:45 am

Morning Yoga Class—FITNESS CENTER FOYER

Interested in putting a little balance into your hectic week? Whether you have regularly practiced yoga or have never tried it, this session will help you get your body and mind grounded for the day and week ahead. Led by ACI Marketing Committee Chair and yoga teacher Kimberly Kayler, this intro to yoga class requires no experience. You don't have to be able to twist into a pretzel or even touch your toes! Registration is not required and a limited quantity of yoga mats will be provided.
**Please consult with your physician to determine if you are fit for this type of activity.*

6:30 am – 8:00 am

Workshop for Technical Committee Chairs—PLAZA BALLROOM A-C

Sponsored by the ACI Technical Activities Committee (TAC)
Session Moderator: H. R. Trey Hamilton
Professor
University of Florida
Gainesville, FL

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.**

7:00 am – 8:30 am

Speaker Development Breakfast—DIRECTOR'S ROW H

Sponsored by ACI Committee S802, Teaching Methods and Educational Materials
Session Moderator: Arsenio Caceres-Fernandez
Associate Professor
University of Puerto Rico
Mayaguez, PR

Speaker: Michael Schneider
Senior Vice President and
Chief People Officer
Baker Concrete Construction,
Incorporated
Monroe, OH

Topic: Communication Between Contractors and Engineers: Making it Work!
This session provides an informal venue for attendees to learn how to become better presenters. The breakfast format promotes interaction between attendees and with the speaker, who models the skills taught in the presentation. Any and all convention attendees should consider attending this breakfast.

No Two People Share a Common Perspective. Participants will learn if they are a "Bouncing Bumblebee," an "Orderly Owl," a "Tolerant Turtle,"or a "Riveting Rhino." This is not a plug for a zoo trip. It is the theme of an enlightening interpersonal human-dynamics discussion. A repertoire of tools will be introduced to help you speak in specifics and check the other parties' perceptions in order to identify the issues and find common ground. We will examine several problem census, coalition building and collaboration techniques. Learn to prevent blowups, mediate disputes and foster teamwork.

8:30 am – 10:30 am

ABC Connections for Seismic-Resistant Design—GOVERNOR'S SQUARE 14

Sponsored by ACI Committee 341, Earthquake-Resistant Concrete Bridges
Session Co-Moderators: Sri Sritharan
Wilson Engineering Professor
Iowa State University
Ames, IA

Mervyn J. Kowalsky
Professor
North Carolina State University
Raleigh, NC

ABC connections for concrete bridges are becoming more common in practice. It is the goal of this session to assess the current state of the art in research and practice regarding the use of ABC connections for the seismic design of concrete bridges.
By attending this session, attendees will be able to:
1. Learn about the history of ABC column connections;
2. Learn new techniques and research on ABC connections;
3. Summarize recent advances in ABC connections; and
4. Discuss the latest design options for ABC connections.

Early Work on Precast Segmental Bridge Piers and Where it has Led—8:30 am
Sarah L. Billington, Professor, Stanford University, Stanford, CA

Connections for ABC in Seismic Regions—9:00 am
John F. Stanton, Professor, University of Washington, Seattle, WA; and **Marc O. Eberhard, Olafur Sveinn Haraldsson,** and **Travis Thonstad,** University of Washington

Seismic Behavior of Pipe Pin Connections for Accelerated Bridge Construction—9:30 am
M Saiid Saiidi, Professor, University of Nevada, Reno, Reno, NV; and **Mehrdad Mehraein** and **Ali Mehrsoroush,** University of Nevada, Reno

Experimental Evaluation and Analytical Simulation of Bridge Column to Footing Joints Connected Using Grouted Splice Sleeves in Seismic Regions—10:00 am
Chris P. Pantelides, Professor, University of Utah, Salt Lake City, UT; and **Mohammad Javad, Ameli Renani, Joel Edgar Parks,** and **Dylan Brown,** University of Utah

2 AIA/CES LU

8:30 am – 10:30 am

Chloride Limits and Thresholds for Concrete Containing Supplementary Cementitious Materials (SCMs), Part 1 of 2—GOVERNOR'S SQUARE 15

Sponsored by ACI Committees 201, Durability of Concrete, and 222, Corrosion of Metals in Concrete

Session Co-Moderators: David Trejo
Professor
Oregon State University
Corvallis, OR

David G. Tepke
Consultant
SKA Consulting Engineers Incorporated
Greensboro, NC

Burkan Isgor
Associate Professor
Oregon State University
Corvallis, OR

ACI uses cement content alone as the basis for allowable chloride limits for new construction. With the heightened use of SCMs and performance specifications for cement, there is need to evaluate using total cementitious materials content as the basis for allowable chloride limits in new construction and for chloride thresholds. These allowable and critical chloride values, along with other important factors, can significantly impact the service life of reinforced concrete structures. The purpose of these sessions is to inform the audience of recent research in these areas so that recommendations on the allowable and critical chloride values can be evaluated and validated. This session will be useful for researchers, engineers, consultants, and those developing standards and specifications.
By attending these sessions, the attendees will be able to:
1. Understand chloride limits used by ACI and other international consensus organizations;
2. Identify the factors that are known to influence chloride thresholds;
3. Learn about recent research on chloride thresholds and limits in concrete containing SCMs; and
4. Recognize the practical implications of basing chloride limits on total cementitious materials content versus cement content.

Introduction to the Technical Sessions—8:30 am
David Trejo, Professor, Oregon State University, Corvallis, OR; and **David G. Tepke,** SKA Consulting Engineers Incorporated

Threshold Values in Concrete – A Look Back and Ahead —8:35 am
Bernard Elsener, Professor, ETH Zurich, Institute for Building Materials, Zurich, Switzerland; and **Ueli M. Angst,** Swiss Federal Institute of Technology

Confusion on Chloride Limits in Specifications that Challenge the Industry—9:00 am
Colin L. Lobo, Vice President of Engineering, National Ready Mixed Concrete Association, Silver Spring, MD

Effect of Fly Ash and Silica Fume on Time to Corrosion Initiation for Specimens Exposed Long-Term to Seawater—9:20 am
Francisco Presuel Moreno, Associate Professor, Florida Atlantic University, Dania Beach, FL; and **Eric Ivan Moreno,** Universidad Autónoma de Yucatan

Examining Factors that Influence Service Life Model Predictions—9:40 am
W. Jason Weiss, Professor, Oregon State University, Corvallis, OR

The Influence of SCM Type and Quantity on the Critical Chloride Threshold—10:05 am
David Trejo, Professor, Oregon State University, Corvallis, OR; and **Cody Tibbits,** Oregon State University

2 AIA/CES LU

8:30 am – 10:30 am

Entering the Industry: What I Wish I Knew—GOVERNOR'S SQUARE 12

Sponsored by ACI Committee S806, Young Professional Activities

Session Co-Moderators: Matthew P. Adams
Assistant Professor
New Jersey Institute of Technology
Newark, NJ

Karla Kruse
Associate III, Wiss, Janney, Elstner Associates, Inc.
Cleveland, OH

This session will involve a panel discussion relating to the transition from academia to industry. The panel will include industry members who recently graduated to those who have been working in industry for several years. Many industries (including design, contractor, and repair) will be represented by these panel members. The session will begin with a brief biography of the panel and then include discussions of predetermined questions and questions from the audience. Discussion will be focused on what to expect starting in industry and how to overcome obstacles you may encounter. The discussion will also focus on how to get and stay involved in ACI, how to use ACI's available resources, and how to convince your new employer to send you to the ACI Convention.
By attending this session, attendees will be able to:
1. Understand what they should expect as they transition into work within the concrete industry from being a student;
2. As employers, recognize the difficulties that new employees face when beginning their careers;
3. Develop better reasoning for obtaining support from employers for attending ACI conventions; and
4. Learn about the day-to-day life of new employees across sectors of the concrete industry.

Panel Discussion—8:30 am
Lauren McCauley, Senior Project Engineer, Balfour Beatty, Raleigh, NC
Catherine Hovell, Bridge Engineer, T.Y. Lin International, Olympia, WA
Megan Huberty, Petrographer, American Engineering Testing, Inc., Saint Paul, MN
Mike Hufnagel, Concrete Testing, Flood Testing Laboratories, Chicago, IL
Jeremiah Fasl, Associate III, Wiss, Janney, Elstner Associates, Incorporated, Austin, TX
Nancy Varney, Structures Staff II, Simpson Gumpertz & Heger, Boston, MA

2 AIA/CES LU

Monday, November 9, 2015

8:30 am – 10:30 am

Research in Progress, Part 1 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators: Jacob Henschen
Visiting Instructor
Valparaiso University
Valparaiso, IN

Chris Carroll
Assistant Professor
St. Louis University
St. Louis, MO

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. Discuss 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.

Surface Electrical Resistivity as an Indicator for Concrete Quality Control (*James Instruments Student Award Winner*)—8:30 am
Ahmad (Amir) Shahroodi, PhD Candidate, University of Ottawa, Ottwa, ON, Canada; and **R. D. Hooton**, University of Toronto

Electrical Impedance Tomography to Monitor 3D Unsaturated Moisture Flow in Cementitious Material—8:45 am
Mohammad Pour-Ghaz, Assistant Professor, North Carolina State University, Raleigh, NC; **Danny Smyl**, North Carolina State University; **Milad Hallaji**, WSP Group; and **Aku Seppänen**, University of Eastern Finland

Novel Performance Tests for Evaluation of Concrete Durability against Alkali-Silica Reaction—9:00 am
Stephen Salwocki, Graduate Student, The Pennsylvania State University, State College, PA; and **Farshad Rajabipour**, The Pennsylvania State University

Nanomechanical Characterization of Epoxy-Cement Paste Interface by Atomic Force Microscopy (AFM) and Nanoindentation—9:15 am
Jovan Tatar, PhD Candidate, University of Florida, Gainesville, FL; and **Curtis R. Taylor** and **H. R. Hamilton**, University of Florida

Mechanical Properties of Alkali-Activated Slag Binders: From Microscale to Macroscale—9:30 am
Robert Thomas, PhD Candidate, Clarkson University, Potsdam, NY; and **Sulapha Peethamparan**, Clarkson University

Effect of Optimized Particle Packing and Fly Ashes on OPC/Anhydrite-Activated Slag—9:45 am
Tristana Duvallet, Research Engineer Associate, University of Kentucky, Lexington, KY; **Laurent Frouin**, Ecocem Materials Limited; and **Thomas L. Robl**, University of Kentucky

Naturally Occurring Bacterial Communities in and on Concrete—10:00 am
Julia A. Maresca, Assistant Professor, University of Delaware, Newark, DE; **Thomas Schumacher**, Portland State University; and **Keira Zhang**, University of Delaware

Effects of Pumping on the Quality of the Concrete Air Void System—10:15 am
Jan Vosahlik, PhD Student, Kansas State University, Manhattan, KS; **Kyle Riding**, Kansas State University; and **Dimitri Feys**, Missouri S&T

2 AIA/CES LU

10:30 am – 11:00 am

Research in Progress Poster Session—GOVERNOR'S SQUARE FOYER

Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators: Jacob Henschen
Visiting Instructor
Valparaiso University
Valparaiso, IN

Chris Carroll
Assistant Professor
St. Louis University
St. Louis, MO

The Research in Progress Poster Session complements the existing Research in Progress Session and provides further opportunity for the presentation of original, unpublished results from ongoing research projects and leading-edge concrete technology 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. Discuss recent techniques, research methods, and procedures related to structural and material aspects of concrete research one-on-one with the authors;
3. Describe emerging ideas in concrete research; and
4. Summarize recent technical information related to concrete structures and materials research.

Study of High-Strength Concrete Reinforced with Bamboo Fibers
Fernando R. Benítez Ortiz, Student, University of Puerto Rico Mayagüez Campus, Puerto Rico; **Raul E. Marrero**, Hildelix Soto; and **Oscar M. Suarez**, University of Puerto Rico Mayagüez Campus

Flexural Testing of Internal and External Post-Tensioning Tendons with Flexible Filler Materials
Natassia R. Brenkus, PhD Candidate, University of Florida, Gainesville, FL; and **H. R. (Trey) Hamilton**, University of Florida

How Fatigue Resistant are Alternative Cementitious Material Concrete Pavements?
Lisa Burris, Postdoctoral Researcher, Georgia Institute of Technology, Atlanta, GA; and **Jack A. Cardinal, Prasanth Alpati,** and **Kimberly E. Kurtis**, Georgia Institute of Technology

Evaluation of the Ultimate Drying Shrinkage of Cement-Based Mortars with Poroelastic Models: Influence of Supplementary Cementitious Materials and Aggregate Size
Carmelo Di Bella, PhD Candidate, Swiss Federal Laboratories and Eidgenossische Technische Hochschule, Zurich, Switzerland; and **Mateusz Wyrzykowski** and **Pietro Lura,** Zurich, Switzerland

Microstructural Characterizations of Sulfur-Rubber Interface in Modified Sulfur Rubber Composites
Seongwoo Gwon, Graduate Student, Ulsan National Institute of Science and Technology, Ulsan, Korea; and **Myoungsu Shin**, Ulsan National Institute of Science and Technology

Evaluation of Calcium Sulfoaluminate Cement as an Energy Harvesting Material
Robert Jewell, PhD Student, University of Kentucky, Lexington, KY; and **Tristana Duvallet**, **Anne Oberlink**, and **Thomas Robl**, University of Kentucky

Serviceability Behavior of Reinforced Concrete Discontinuity Regions
Jessica Kettelkamp, MS Candidate, Northern Arizona University, Flagstaff, AZ; and **Robin Tuchscherer**, Northern Arizona University

Rapidly Deployable Shotcrete System for the Structural Stabilization of Shock Damaged Structures
Anne Oberlink, Associate Research Scientist, University of Kentucky, Lexington, KY; and **Robert Jewell**, **Thomas Robl**, and **Tristana Duvallet**, University of Kentucky, Lexington Kentucky

11:00 am – 1:00 pm

50 Years of Environmental Engineering Concrete Structures at ACI: Past, Present, and Future—GOVERNOR'S SQUARE 12

Sponsored by ACI Committee 350, Environmental Engineering Concrete Structures
Session Moderator: Reza Kianoush
Professor
Ryerson University
Toronto, ON, Canada

The objective of this session is to recognize the work of ACI Committee 350 in celebration of the 50th anniversary of Environmental Engineering Concrete Structures at ACI.
By attending this session, attendees will be able to:
1. Recognize the work of ACI Committee 350 over the past 50 years;
2. Highlight the challenges to implement the knowledge and experience into the ACI 350 Code;
3. Discuss the status of the current proposed revisions to ACI 350 and ACI 350.3 for next edition to these documents; and
4. Summarize the recent research studies carried out on liquid-containing structures and the need for future research in this area.

Introduction—11:00 am
Jon B. Ardahl, ACI Past Committee Chair, Lecompton, KS

Serviceability and the Origins of ACI Involvement with Environmental Structures—11:10 am
Timothy J. Fowler, ACI Past Committee Chair, Lecompton, KS

Challenges Towards the Implementation of ACI 350 01 Code —11:30 am
Charles Hanskat, Executive Director, American Shotcrete Association, Farmington Hills, MI

Current Codes and Standards in ACI 350—11:50 am
Sach Sachdev, ACI Past Committee Chair, Naperville, IL

Proposed Revisions to ACI Codes and Standards and Future Challenges—12:10 pm
William C. Sherman, ACI Past Committee Chair, Miami, FL

Research Studies on Liquid-Containing Structures (LCS) and Future Research Needs—12:30 pm
M Reza Kianoush, Professor, Ryerson University, Toronto, ON, Canada

2 AIA/CES LU

11:00 am – 1:00 pm

Chloride Limits and Thresholds for Concrete Containing Supplementary Cementitious Materials (SCMs), Part 2 of 2—GOVERNOR'S SQUARE 15

Sponsored by ACI Committees 201, Durability of Concrete, and 222, Corrosion of Metals in Concrete
Session Co-Moderators: David Trejo
Professor
Oregon State University
Corvallis, OR

David G. Tepke
Consultant
SKA Consulting Engineers Incorporated
Greensboro, NC

Burkan Isgor
Associate Professor
Oregon State University
Corvallis, OR

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 43.

Probabilistic Treatment of Chloride Threshold—11:00 am
Carmen Andrade, Industrial Chemistry, Institute of Construction Sciences "Eduardo Torroja", Madrid, Spain; and **Fabiano Tavares,** Institute of Construction Sciences "Eduardo Torroja"

Chloride Limits and Thresholds for Concrete Containing Fly Ash—11:25 am
Michael D. A. Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada

Impact on Anticipated Service Life of Chloride Thresholds—11:50 am
Kyle D. Stanish, Restoration Engineer, Walker Restoration Consultants, Chicago, IL

A Thermodynamic Perspective on Chloride Limits in Concrete Produced with SCMs—12:10 pm
O. Burkan Isgor, Associate Professor, Oregon State University, Corvallis, OR; and **Vahid Jafari Azad,** Oregon State University

Panel Discussion—12:35 pm

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Monday, November 9, 2015

11:00 am – 1:00 pm

Research in Progress, Part 2 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators: Jacob Henschen
Visiting Instructor
Valparaiso University
Valparaiso, IN

Chris Carroll
Assistant Professor
St. Louis University
S. Louis, MO

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 44.

Effect of Material Behavior on the Seismic Performance of Fiber Reinforced Concrete Coupling Beams without Diagonal Reinforcement—11:00 am
Gustavo J. Parra-Montesinos, Professor, University of Wisconsin, Madison, WI; and **Ángel Pérez-Irizarry**, University of Wisconsin

Effects of Load Distribution and Specimen Size on the Shear Strength of Slender Beams without Shear Reinforcement—11:15 am
Joseph Klein, MS Student, The University of Texas at Austin, Austin, TX; **Nick Dassow**, L.A. Fuess Partners, Inc.; and **Oguzhan Bayrak**, **Katelyn Beiter**, and **Gloriana Arrieta Martinez**, The University of Texas at Austin

Physical Models in the Reinforced Concrete Design Classroom—11:30 am
Anahid Behrouzi, PhD Candidate, University of Illinois at Urbana-Champaign, Urbana, IL

Flexural Behavior of Steel Fiber-Reinforced High Strength Concrete Beams—11:45 am
Kacie C. D'Alessandro, Assistant Professor, Washington and Lee University, Lexington, VA; and **Aristide Shingiro** and **Juan Cruz Mayol**, Washington and Lee University

Retrofit of Deficient Lap Splice with Post-Installed Undercut Anchors—12:00 pm
Katelyn Beiter, MS Student, The University of Texas at Austin, Austin, TX; and **Gloriana Arrieta Martinez** and **Joseph Klein**, The University of Texas at Austin

Experimental Evaluation of CFRP Anchors—12:15 pm
Antonio Nanni, Professor, University of Miami, Miami, FL; **Francisco De Caso**, University of Miami; **Angiolo Berneschi**, and **Carlo Poggi**, Politecnico di Milano

Delamination Failure of Curved Post-Tensioned Concrete Structures under Monotonically Increasing Prestressing Loads—12:30 pm
Jongkwon Choi, Graduate Research Assistant, The University of Texas at Austin, Austin, TX; and **Clint R. Woods**, **Trevor D. Hrynyk**, and **Oguzhan Bayrak**, The University of Texas at Austin

Service-Life Prediction Modeling of Concrete Bridge Decks Using NBI Data—12:45 pm
Omar Ghonima, PhD Candidate, University of Delaware, Newark, DE; and **Thomas Schumacher,** Portland State University

2 AIA/CES LU

11:00 am – 1:00 pm

The Legacy of Per Fidjestøl: A Pioneer of Silica Fume Concrete, Part 1 of 2—GOVERNOR'S SQUARE 14

Sponsored by ACI Committee 234, Silica Fume in Concrete

Session Co-Moderators: Whitney Le B. Belkowitz
President
Intelligent Concrete, LLC
Broomfield, CO

Jon S. Belkowitz
President
Intelligent Concrete, LLC
Elbert, CO

Per Fidjestøl was a pioneer in the concrete industry. An ACI Fellow and Honorary ACI member, Fidjestøl spent 45 years in the concrete industry. During the tenure of his concrete career, Fidjestøl contributed to the development of high-performance concrete incorporating silica fume for sustainable construction. The purpose of this two-part session is to honor both the legacy of Per Fidjestøl's early work with concrete and highlight some of the current state-of-the-art research. Ultimately, the technical session is designed to celebrate the 45 years that Fidjestøl contributed to advancing the sustainable development of concrete structures. We celebrate not only his involvement in new concrete technologies but also how he educated the industry. Whether through his many appearances at conferences across the world or as a Professor at the University of Agder, Fidjestøl helped cultivate and refine a new generation of concrete scientists and engineers. Who should attend: professional engineers, contractors, and concrete providers.
By attending this session, attendees will be able to:
1. Understand the history of silica fume in the concrete and construction industry;
2. Learn about Fidjestøl's contribution in bringing this novel technology to concrete and construction industries;
3. See how silica fume changed and is still changing the concrete and construction industries; and
4. Describe the effect of silica fume on reinforcement corrosion.

Long Term Chloride Diffusion in UHPC (Treat Island)—11:00 am
Brian H. Green, Research Geologist, U.S. Army Corps of Engineers-Engineer Research & Development Center, Vicksburg, MS

High-Performance Concrete Using Blended and Triple Blended Binders—11:30 am
Robert C. Lewis, Technical Marketing Manager, Elkem Silicon Materials, Reading Berkshire, United Kingdom

UHPC Grimstadt University—12:00 pm
Ben Sealey, Area Sales Manager, Elkem Ltd, Menai Bridge, United Kingdom

High-Performance Concrete Using Ternary Cements—12:30 pm
Michael D. A. Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

11:30 am – 1:30 pm

✓*Student Lunch—PLAZA BALLROOM A-C*

$45 U.S. per person
FREE to students who preregistered by 10/11/15
Sponsored by Baker Concrete Construction Company, Inc.

BAKER CONCRETE CONSTRUCTION expect more

Coordinated by the Rocky Mountain Chapter – ACI and ACI Committee S801, Student Activities

Speaker: Tyler Ley
Assistant Professor
Oklahoma State University
Stillwater, OK

Topic: Grand Challenges and Grand Opportunities

Join students and other ACI attendees for the Student Lunch. Speaker Tyler Ley will give a presentation geared toward students and future leaders of the industry. All are welcome to register for the lunch. Following the lectures, the results of the student competition 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.*

1:30 pm – 3:30 pm

Curing—Finish the Construction, Part 1 of 2—GOVERNOR'S SQUARE 15

Sponsored by ACI Committee 308, Curing Concrete
Session Co-Moderators: Ron Kozikowski
Consulting Engineer
North Starr Concrete Consulting
Dover, NH

Lawrence Homer Taber
Structural Engineer
Black & Veatch
Overland Park, KS

Curing is an often overlooked part of the concrete construction process. When planning for constructability, don't forget to plan for curing.
These sessions will be useful to all participants in concrete construction projects.
By attending this session, attendees will be able to:
1. Recognize the importance of external curing to provide durable concrete;
2. Identify different curing methods and their impact on the long-term curling of concrete pavements and slabs-on-ground from differential drying;
3. Describe the process of using drinking water treatment waste as an alternative; and
4. Discuss the use of early wet curing of concrete to minimize bridge deck cracking.

Overview of the New ACI 308R-15 Guide to External Curing of Concrete—1:30 pm
Lawrence Homer Taber, Structural Engineer, Black & Veatch, Overland Park, KS

Investigation on the Impact of Curing on the Long-Term Curling of Concrete from Drying—2:00 pm
Tyler Ley, Assistant Professor, Oklahoma State University, Stillwater, OK

Drinking Water Treatment Residual as a Cement Replacement with Internal Curing Properties—2:30 pm
John T. Kevern, Assistant Professor of Civil Engineering, University of Missouri - Kansas City, Kansas City, MO

Discussion of Maryland State Highway Administration's Experience in Minimizing Bridge Deck Cracking through the Implementation of a Specification Requiring Early Wet Curing of the Concrete—3:00 pm
Henry B. Prenger, Director of Technical Services, Lafarge Cement, Baltimore, MD

2 AIA/CES LU

1:30 pm – 3:30 pm

Design and Performance of Concrete Bridges and Buildings When Interacting with Soils and Foundations, Part 1 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committee 345, Concrete Bridge, Construction, Maintenance, and Repair; and Joint ACI-ASCE Committee 343, Concrete Bridge Design
Session Co-Moderators: Yail Jimmy Kim
Associate Professor
University of Colorado Denver
Denver, CO

Nien-Yin Chang
Professor
University of Colorado at Denver
Denver, CO

This special session will emphasize the design and performance of concrete bridges and buildings with consideration for interaction with soils and foundations, including deep or shallow foundations. Given soil structure interaction as being a critical factor in the design of most buildings and bridges, a technical forum is needed to exchange current knowledge and develop research needs. Presentations will encompass a wide variety of technical issues such as the effect of differential settlement on the behavior of structures, backfills for bridge abutment, and earthquake-induced responses of structures. Both experimental and analytical investigations are of interest. The session brings to light recent research findings and provides an opportunity to discuss present challenges and technical issues. Critical information is provided to those who lead tomorrow's structural design and construction in conjunction with soils and foundations, including practicing engineers, government officials, and academics.
By attending this session, attendees will be able to:
1. Learn the state of the art of soil structure interaction;
2. Identify research needs to advance the knowledge associated with constructed concrete bridges and buildings;
3. Recognize the effort to establish a new trend in the design and performance of concrete structures interacting with soils; and
4. Link laboratory investigations with practical site applications.

Frequency-Dependent Effects of Soil Structure Interaction on Inelastic Behavior of Superstructures—1:30 pm
Richard Gash, Assistant Professor, United States Military Academy, West Point, NY; and **Elnaz Esmaeilzadeh Seylabi** and **Ertugrul Taciroglu**, University of California

Design of Bridges Approach Concrete Slabs and Interaction with Soils—1:50 pm
Mohamed Nasser Darwish, Professor, Alexandria University, Alexandria, Egypt

Abutment on Mechanically Stabilized Backfill for Bridge Bump Avoidance—2:10 pm
Nien Yin Chang, Professor, University of Colorado Denver, Denver, CO; **Kevin Zeh Zon Lee,** U.S. Bureau of Reclamation; **Yail Jimmy Kim,** University of Colorado Denver; and **Trever Wang,** Colorado Department of Transportation

Tiger Cage for Abutment/Retaining Wall and MSB Interaction Experiments—2:30 pm
Brian Volmer, PhD Student, University of Colorado Denver, Denver, CO; and **Nien Yin Chang** and **Jungang Liu,** University of Colorado Denver

Vibration Analysis for Dynamic Machine Foundation Using the Rapid Load Test of Pile—2:50 pm
Yohei Tanaka, Civil Engineer, Chiyoda Corporation, Yokohama, Japan; and **Keisuke Matsukawa, Noaya Kishi,** and **Genki Seo,** Chiyoda Corporation

Impact of Structural Pile Fixity on the Lateral Load Behavior of RC Concrete Bridge Piers—3:10 pm
Anne Lemnitzer, Assistant Professor, University of California, Irvine, Irvine, CA; **Leonardo M. Massone,** University of Chile; and **Ertugrul Taciroglu** and **Jonathan Stewart,** University of California, Los Angeles

2 AIA/CES LU

Monday, November 9, 2015

1:30 pm – 3:30 pm

fib *Perspective on Life-Cycle Cost and Service Life Design—GOVERNOR'S SQUARE 11*

Sponsored by the ACI International Advisory Committee; ACI Committee 130, Sustainability of Concrete; and the *fib* Coordination Group

Session Moderator: Brett H. Pielstick
Senior Vice President
Eisman & Russo
St. Augustine, FL

ACI, in cooperation with the International Federation for Structural Concrete (*fib*) Commission 8 on the Durability of Concrete Structures, have collaborated to share their perspective and approach to life-cycle cost and durability service life design. This session assembles several *fib* experts in this field to share their ongoing work to enhance the service life design of concrete structures. The topics for this session range from "Service Life Design Approach from the 2010 Model Code" and "Operational documents to support Service Life Design" to "Model Technical Specification for Repairs and Interventions" and "Deemed to Satisfy Provisions in Standards." This collaborative effort between ACI and *fib* is made as an initial step toward sharing knowledge and combining research to further advance the topic of durability of concrete structures.
By attending this session, attendees will be able to:
1. Provide an overview of the European probabilistic approach to durability as a key component of sustainability;
2. Introduction to recent publications and ongoing work of *fib* Commission 8, Durability of Concrete Structures;
3. Detailed presentations on life-cycle approach, structures birth certificates and through-life management, benchmarking of deemed-to-satisfy provisions in standards, and operational documents to support service life design; and
4. To provide an exchange of information and approached between ACI and *fib* for the common issue of durability of concrete structures.

Benchmarking of Deemed-to-Satisfy Provisions in Standards —1:30 pm
Christoph Gehlen, Professor, Institute of Building Materials Research, Munchen, Germany

Operational Documents to Support Service Life Design—1:45 pm
Carmen Andrade, Industrial Chemistry, Insitute of Construction Sciences "Eduardo Toroja", Madrid, Spain

Birth and Re-Birth Certificates and Through-Life Management Aspects—2:00 pm
Michael Bartholomew, Technology Director, North American Bridges, CH2M Hill, Corvallis, OR

Life-Cycle Cost Design Life for Sustainability—2:15 pm
Carola Edvardsen, Engineering, COWI Consulting Engineering & Planners, Kongens Lyngby, Denmark

Model Technical Specification for Repairs and Interventions—2:30 pm
Philip McKenna, Principal Bridges Engineer, CH2M Hill, Glasgow, United Kingdom

Durability Design—2:45 pm
Matthew Stuart, Chief Engineer Construction, Building Technology Group, BRE, Garston, United Kingdom

2 AIA/CES LU

1:30 pm – 3:30 pm

The Legacy of Per Fidjestøl: A Pioneer of Silica Fume Concrete, Part 2 of 2—GOVERNOR'S SQUARE 14

Sponsored by ACI Committee 234, Silica Fume in Concrete

Session Co-Moderators: Whitney Le B. Belkowitz
President
Eisman & Russo
St. Augustine, FL

Jon S. Belkowitz
President
Intelligent Concrete, LLC
Elbert, CO

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 46.

Silica Fume Concrete before Per – The First Major Project in the United States—1:30 pm
Terry Holland, ACI Past President, Concrete.Terry.LLC, Auburn Township, OH

Long-Term Chloride Intrusion in Field-Exposed Concrete with and without Silica Fume—2:00 pm
Doug Hooton, Professor, University of Toronto, Toronto, ON

The Storebaelt Link-First Major Use of Ternary Blend Concrete-1 Million Cubic Meters—2:30 pm
Robert C. Lewis, Technical Marketing Manager, Elkem Silicon Materials, Reading Berkshire, United Kingdom

Parking Structures, Case Histories—3:00 pm
Anthony N Kojundic, Technical Sales, Elkem Materials Inc., Pittsburgh, PA

2 AIA/CES LU

3:30 pm – 5:00 pm

★Guest Social—15 | FIFTY RESTAURANT

ACI invites all convention guests to the Guest Social hosted by Mrs. Sheila Rushing. You don't want to miss an opportunity to catch up with old friends, get to know other convention guests, and enjoy light refreshments. A guest name badge is required to attend this event.

4:00 pm

Beer Garden—PLAZA EXHIBIT HALL

All attendees are invited to stop by the Beer Garden in the Exhibit Hall. The Beer Garden is sponsored in part by Full Line Testing and Inspection, LLC and the Rocky Mountain Chapter – ACI.

4:00 pm – 6:00 pm

Carbon Dioxide Utilization in Concrete—GOVERNOR'S SQUARE 11

Sponsored by ACI Committees 130, Sustainability of Concrete, and 236, Material Science of Concrete
Session Moderator: Sean Monkman
Vice President Technology Research
CarbonCure Technologies
Dartmouth, NS, Canada

This session will bring together researchers who are investigating the use of carbon dioxide as a feedstock in concrete production. A chemical reaction between carbon dioxide and the hydrating cementitious phases of early-age concrete can effectively bind carbon dioxide into the concrete, thereby modifying the concrete properties and the microstructures while providing an environmental benefit.
By attending this session, attendees will be able to:
1. Recognize mechanisms, progress, and challenges concerning the use of carbon dioxide to produce concrete;
2. Gain knowledge on techniques, research methods, and procedures related to analyzing carbonate reaction products created when concrete is carbonated during its production;
3. Learn about emerging ideas for the beneficial use of carbon dioxide in concrete building materials; and
4. Distinguish between harmful concrete carbonation and beneficial carbon dioxide use in concrete.

Influence of CO_2 Sequestration in Cement-Based Materials during Mixing—4:00 pm
Muhammed P. A. Basheer, Professor, University of Leeds, England, United Kingdom; **Jacek Kwasny,** Queen's University Belfast,; and **William Doherty,** Creagh Concrete Products Ltd.

Performance of Carbonation-Cured Concrete with Portland Limestone Cement—4:20 pm
Hilal El Hassan, Assistant Professor, United Arab Emirates University, Al Ain, United Arab Emirates; and **Yixin Shao,** McGill University

CO_2-Cured Concrete Based on Calcium Silicate Cement—4:40 pm
Sada Sahu, Principal Scientist, Solidia Technologies Incorporated, Piscataway, NJ; and **Jitendra A. Jain, Nicholas DeCristofaro,** and **Vahit Atakan,** Solidia Technologies Incorporated

The Influence of the CO_2 Treatment Conditions in Cementitious Materials Reinforced With Natural Sisal Fibers—5:00 pm
Alex Neves Junior, Adjunct Professor and Civil Engineer, Federal University of Mato Grosso, Cuiabá, Brazil; **Eduardo Fairbairn,** and **R.D. T. Filho,** COPPE/UFRJ; and **Jo Dweck,** University of Rio de Janeiro

Carbon Dioxide Utilization in Hollow Core Concrete Slab Curing—5:20 pm
Mehrdad Mahoutian, Postdoctoral student, McGill University, Montreal, QC, Canada; **Yixin Shao**, McGill University; and **Md Abu Morshed,** Khulna University of Engineering & Technology

Carbon Dioxide Utilization in Ready Mixed Concrete Production—5:40 pm
Sean Monkman, VP Technology Development, CarbonCure Technologies, Dartmouth, NS, Canada; **R Doug Hooton,** University of Toronto; and **Mark MacDonald,** CarbonCure Technologies

2 AIA/CES LU

4:00 pm – 6:00 pm

Curing—Finish the Construction, Part 2 of 2—GOVERNOR'S SQUARE 15

Sponsored by ACI Committee 308, Curing Concrete
Session Co-Moderators: Ron Kozikowski
Consulting Engineer
North Starr Concrete Consulting
Dover, NH

Lawrence Homer Taber
Structural Engineer
Black & Veatch
Overland Park, KS

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 47.

Effect of Different Periods of Moist Curing on Near Surface Drying and Sorption of Fluids—4:00 pm
R Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada

Integral Trowel Cure and Polished Floors Introducing and Defining ITCP—4:30 pm
Jason Barnes, President, Green Umbrella, Sheridan, AR

Recent Improvements in Internally Cured Concrete—5:00 pm
John M. Roberts, Chairman/Treasurer/Founder, Northeast Solite Corporation, Richmond, VA

Using Maturity to Measure the In-Place Strength and Effectiveness of Curing—5:30 pm
Frank A. Kozeliski, Materials Engineer/Consultant, Kozeliski Consulting LLC, Gallup, NM

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Monday, November 9, 2015

4:00 pm – 6:00 pm

Design and Performance of Concrete Bridges and Buildings When Interacting with Soils and Foundations, Part 2 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committee 345, Concrete Bridge, Construction, Maintenance, and Repair, and Joint ACI-ASCE Committee 343, Concrete Bridge Design

Session Co-Moderators: Yail Jimmy Kim
Associate Professor
University of Colorado at Denver
Denver, CO

Nien-Yin Chang
Professor
University of Colorado at Denver
Denver, CO

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 47.

Earthquake-Induced SSI Effects on High-Rise Buildings—4:00 pm
Hien Manh NgHiem, Research Associate, University of Colorado Denver, Denver, CO; and **Nien Yin Chang,** University of Colorado Denver

Soil Structure Interaction of Underground Structures—A Large-Scale Experimental Investigation at E-Defense, Japan—4:20 pm
Anne Lemnitzer, Assistant Professor, University of California, Irvine, Irvine, CA; and **Yohsuke Kawamata,** National Research Institute for Earth Science and Disaster Prevention

A Tale of Two Buildings: Case Studies of Underpinning by Compaction Grouting—4:40 pm
Frederick R. Rutz, Principal, J.R. Harris & Company, Denver, CO; and **James R. Harris** and **Jennifer Harris,** J.R. Harris & Company

Identification of Soil—Foundation Dynamic Stiffness from Seismic Response Signals—5:00 pm
S.F. Ghahari, Post-Doctural Research Assistant, University of California, Los Angeles, Los Angeles, CA; and **Ertugrul Taciroglu,** University of California at Los Angeles

Soil Structure Interaction under Semi Static Loads in an Integral Abutment Bridge—5:20 pm
Miguel Munoz, PhD Candidate, Fuzhou University, Fuzhou, China

Forensic Investigation and Rehabilitation of Buildings Suffered Expansive Soil Damage—5:40 pm
Richard Hepworth, President, HP GEOTECH, Parker, CO; and **Nien Yin Chang,** University of Colorado at Denver

2 AIA/CES LU

4:00 pm – 6:00 pm

Rebuilding Colorado after the 2013 Flash Floods—GOVERNOR'S SQUARE 14

Sponsored by ACI Committee 364, Rehabilitation, and the Rocky Mountain Chapter – ACI

Session Co-Moderators: Whitney Le B. Belkowitz
President
Intelligent Concrete, LLC
Elbert, CO

Jon S. Belkowitz
President
Intelligent Concrete, LLC
Elbert, CO

The 2013 Colorado flash flood was one of the worst on record—second only to the Big Thompson Flood of 1976. On September 9, 2013, a slow-moving cold front stalled over Colorado, clashing with warm, humid air. This resulted in heavy rain and catastrophic flooding along Colorado's Front Range, impacting 24 counties. Nearly 19,000 homes were damaged and at least 30 state highways destroyed. The Colorado recovery effort started immediately. Less than a year later, the damage was repaired—all thanks to the efforts of General Contractors Public Works, Colorado Department of Transportation, and U.S. Bureau of Reclamation.
By attending this session, attendees will be able to:
1. Understand the damage that the flash flood caused;
2. Learn how the local highways were inspected for use/repair/demolition;
3. Describe how engineers and technicians expedited the repair and/or replacement of roadways and bridges for towns isolated by the flash flood; and
4. Identify the key factors for the efficient recovery after the flash flooding.

Historical and Damage Analysis of the 2013 Colorado Flash Flood—4:00 pm
Johnny Olson, Professional Engineer, CDOT, Greeley, CO

Immediate Recovery and Permanent Repairs to Colorado Highways due to the 2013 Colorado Flash Flood—4:30 pm
Heather Paddock, CDOT Flood Recovery Manager, Colorado Department of Transportation, Greeley, CO

Epoxy Grouting of the Hansen Siphon Pier Damaged during the Big Thompson River Flooding—5:00 pm
Westin T. Joy, Civil Engineer, U.S. Bureau of Reclamation, Denver, CO

2 AIA/CES LU

5:30 pm – 6:30 pm

Women in ACI Reception—WINDOWS

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. All are welcome at this reception! A cash bar and light hors d'oeuvres will be served.

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

6:30 pm – 8:30 pm

✓The Excellence in Concrete Construction Awards Inaugural Gala—PLAZA BALLROOM A-C

$75 U.S. per person
Doors open at 5:30 pm
The ACI Excellence in Concrete Construction Awards will honor some of the most creative projects the concrete world has to offer. Chapter and International Partner sponsored concrete projects of all types are eligible to receive an award. Entries will be juried by an independent panel of industry professionals uniquely qualified and representing diverse backgrounds, with technical expertise in all award categories. First- and second-place awards may be given in each category. An overall "Excellence" award will be revealed the evening of the Gala. Doors open at 5:30 pm and a cash bar will be available.

8:30 pm – 10:00 pm

The Excellence in Concrete Construction Awards Inaugural Gala Reception—PLAZA BALLROOM A-C

(Open and free to all convention attendees)

Join ACI attendees to celebrate the accomplishments of those recognized during The Excellence in Concrete Construction Awards Inaugural Gala. A cash bar will be provided.

Tuesday, November 10, 2015

5:00 am and 6:00 am

Run/Walk Meet-Up—SHERATON LOBBY

Looking for a running or walking partner? This is a great opportunity to meet up with other ACI attendees before heading out for your morning run or walk. Local area maps are available at the hotel concierge desk. All are welcome!
**Please consult your physician to determine if you are fit for this type of activity. Run/walk at your own risk.*

6:00 am – 6:45 am

Morning Yoga Class—FITNESS CENTER FOYER

Interested in putting a little balance into your hectic week? Whether you have regularly practiced yoga or have never tried it, this session will help you get your body and mind grounded for the day and week ahead. Led by ACI Marketing Committee Chair and yoga teacher Kimberly Kayler, this intro to yoga class requires no experience. You don't have to be able to twist into a pretzel or even touch your toes! Registration is not required and a limited quantity of yoga mats will be provided.
**Please consult with your physician to determine if you are fit for this type of activity.*

8:30 am – 10:30 am

A Performance-Based Approach to Hot Weather Concreting, Part 1 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committee 305, Hot Weather Concreting
Session Co-Moderators: TJ Harris
Technical Services Manager
Ascension Ready Mix
Prairieville, LA

Oscar R. Antommattei
Consulting Engineer
Kiewit Corporation – Kiewit Infrastructure Engineers Company
Englewood, CO

This session focuses on new developments, common practices, innovative technologies, and challenges related to design, construction, and performance of concrete in hot weather.
By attending this session, attendees will be able to:
1. Identify options for dealing with placing, finishing, and curing concrete in hot weather;
2. Learn about new ideas and innovative technologies available to improve concrete performance in hot weather;
3. Understand common construction practices and challenges with concrete in hot weather; and
4. Recognize benefits of knowing ways to optimize design and construction of concrete in hot weather.

Model for Early-Age Rate of Evaporation of Cement-Based Materials—8:30 am
Mehdi Bakhshi, Senior Tunnel Engineer, AECOM, New York, NY

Dealing with Hot Weather Concrete: Specifications, Materials, Operations, and Other Challenges—8:50 am
Oscar R. Antommattei, Consulting Engineer, Kiewit Corporation Kiewit Infrastructure Engineers Co, Englewood, CO

Specifying, Proportioning, and Producing Rapid-Strength Concrete with Consideration for Ambient Conditions—9:10 am
Boris Y. Stein, Vice President Materials Engineering & Research, Twining Incorporated, Long Beach, CA

Using Workability Retaining Admixtures in Hot Weather Concreting—9:30 am
G Terry Harris, Manager of Technical Services NA, WR Grace & Company, Green Cove Springs, FL; and **Kirk K. Deadrick**, Kirk K Deadrick

How Does Hot Weather Placement Impact Transport, Durability, and Performance Specifications?—9:50 am
W Jason Weiss, Professor, Purdue University, West Lafayette, IN

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Tuesday, November 10, 2015

8:30 am – 10:30 am

Contractors' Day Session: Constructability, Part 1 of 2—GOVERNOR'S SQUARE 14

Sponsored by the Rocky Mountain Chapter – ACI
Session Moderator: Kim D. Basham
Senior Structural Engineer
KB Engineering LLC
Cheyenne, WY

Contractors must overcome constructability challenges on every job. If these challenges are not addressed, the risk of construction errors, delays, and cost overruns increases. Constructability has many aspects, but for contractors, it essentially refers to the extent to which the design of the structure facilitates the ease of construction. As projects become more complex and expensive and the window of construction shrinks, constructability becomes more critical to ensure a successful project. In this all-day session (Constructability I and II), you will hear about constructability topics that can affect your day-to-day operations, schedules, and profits. Session topics include the following: recommended approaches to constructability, sustainable design requirements, optimizing mixture designs, dealing with cold weather concreting, construction tolerances, and reinforcement congestion. If you are involved in any aspect of concrete construction, plan to attend this session, including the Contractors' Day Lunch, and learn about constructability challenges and solutions for our industry.
By attending this session, attendees will be able to:
1. Identify and overcome some of the obstacles that increase the risk of construction errors, delays, and cost overruns;
2. Implement a preconstruction review process to improve constructability;
3. Become a proactive design and construction team partner; and
4. Improve the ease of construction on your next project.

Constructability from Within—8:30 am
Michael Schneider, Senior Vice President and Chief People Officer, Baker Concrete Construction, Monroe, OH

Resolving the Conflict between Sustainable Design Requirements and Constructability—9:00 am
Richard S. Szecsy, President, Texas Aggregates & Concrete Association, Austin, TX

Mix Design and Constructability Strength is the Easy Part—9:30 am
Kevin A. MacDonald, Principal, Beton Consulting Engineers LLC, Prior Lake, MN

2 AIA/CES LU

8:30 am – 10:30 am

SCC Ready Mixed Concrete Applications—GOVERNOR'S SQUARE 15

Sponsored by ACI Committee 237, Self-Consolidating Concrete
Session Co-Moderators: H. Celik Ozyildirim
Principal Research Scientist
Virginia Transportation
Research Council
Charlottesville, VA

Ketan R. Sompura
Director of Concrete Technology
SIKA Corporation
Lyndhurst, NJ

Self-consolidating concrete (SCC) is widely used in precast concrete applications, but cast-in-place applications are more limited. This session will present issues typical of cast-in-place applications such as slump flow control and retention, air content variation, stability of air voids, segregation, and shrinkage due to excess fines. In addition to presenting the issues, solutions, and lessons learned, the session will inform on successful applications of cast-in- place SCC.
By attending this session, attendees will be able to:
1. Learn about producing consistent SCC;
2. Understand the use and importance of admixtures in the making of SCC;
3. Learn about the ingredients that affect the cost of SCC; and
4. Learn about case studies and the lessons learned.

Producing Consistent SCC in Ready Mixed Concrete Applications—8:30 am
Joseph A. Daczko, Buisness Development Manager, BASF Construction Chemicals, Cleveland, OH

The Importance of Viscosity in Production of Eco SCC—8:50 am
Olafur H. Wallevik, Manager, Innovation Center Iceland, Reykjavik, Iceland

Chemical Admixtures for SCC in Ready Mixed Concrete Applications—9:10 am
Ketan R. Sompura, Director of Concrete Technology, Sika Corporation, Lyndhurst, NJ

SCC in a Mass Concrete Application—9:30 am
G Terry Harris, Director, Technical Service-Concrete, WR Grace, Cambridge, MA; and **Godwin Q. Amekuedi,** Argos USA

Fresh Concrete Behavior of SCC Mixtures in a Large Nuclear Plant Construction Project—9:50 am
Ufuk Dilek, Senior Technical Specialist, CB&I, Charlotte, NC; and **Boris Haranki,** CB&I Vogtle

SCC Ready Mixed Economic and Operational Considerations—10:10 am
Teck L. Chua, Manager-Technical Services, Vulcan Materials Company, Herndon, VA

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

8:30 am – 10:30 am

UHPC Innovative Applications and Constructional Concepts, Part 1 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committees 236, Material Science of Concrete; 239, Ultra-High Performance Concrete; and 544, Fiber-Reinforced Concrete

Session Moderator: Kay Wille
Assistant Professor
University of Connecticut
Storrs, CT

Ultra-high-performance concrete has demonstrated potential for innovative structural and nonstructural applications in the construction industry due to the advanced material performance in comparison to conventional concrete. This session provides a platform to present and discuss innovative applications and construction concepts. These innovations might inspire other researchers and practitioners to open the door for new ideas and future visions. This session has been chosen for the ACI Convention at Denver, CO, to spread the knowledge of the applicability of this type of advanced concrete composite, and thus contributing to the theme "Constructability."
By attending this session, attendees will be able to:
1. Learn about innovative UHPC applications;
2. Notice the potential of material properties in comparison to conventional concrete;
3. Recognize the advanced structural performance of UHPC elements; and
4. Realize the importance of UHPC constructional concepts for the nation's infrastructure.

Ductal® Innovative UHPC Solutions for the Next Decade—8:30 am
Dominique Corvez, UHPC/Ductal North America, Lafarge North America Incorporated, Chicago, IL

Mission Bridge Seismic Retrofit Using UHPC—8:50 am
Katrin Habel, Bridge Designer, Associated Engineering Ltd, Burnaby, BC, Canada; **Don Kennedy,** Associated Engineering Ltd; and **Gaston Doiron,** Lafarge NA

Repair of Steel Beam/Girder Ends with UHPC—9:10 am
Kay Wille, Assistant Professor, University of Connecticut, Storrs, CT; **Arash Zaghi,** University of Connecticut; and **Kevin Zmetra,** PSI

Production Methods for Reliable Construction of Ultra-High-Performance Concrete (UHPC) Structures—9:30 am
Amirpasha Peyvandi, Bridge Engineer, HNTB Corporation, Baton Rouge, LA

Development of Ultra-High-Performance Concrete Using Ternary Mix of Fly Ash, Metakaolin, and Portland Cement Material Properties, Predictions, and Optimization—9:50 am
Zhengqi Li, Student, Clemson University, Central, SC; and **Prasad R. Rangaraju,** Clemson University

2 AIA/CES LU

11:00 am – 1:00 pm

A Performance-Based Approach to Hot Weather Concreting, Part 2 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committee 305, Hot Weather Concreting

Session Co-Moderators: TJ Harris
Technical Services Manager
Ascension Ready Mix
Prairieville, LA

Oscar R. Antommattei
Consulting Engineer,
Kiewit Corporation - Kiewit Infrastructure Engineers Company
Englewood, CO

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 51.

Hot Weather High-Performance Concrete in the UAE, Case Studies—11:00 am
Fouad H. Yazbeck, Technical Manager, Ready Mix Abu Dhabi, Abu Dhabi, United Arab Emirates

The Use of Service Life Modeling to Prevent Reduced Service Life Performance of Concrete in Hot Climates—11:20 am
Bruce G. Smith, Rail Engineer, SANDAG MMPI, San Diego, CA

Measures to Specify Quality Concrete when Hot Weather Beckons —11:40 am
Jonathan L. Poole, Senior Engineer, CTL Group, Cedar Park, TX

Thermal Cracking Management by the Heat Signature Method—12:00 pm
Godwin Q. Amekuedi, Director of Corporate Quality Assurance/Technology, Argos USA, Raleigh, NC

Controlled Hot Weather Testing Results Using Synthetic Fibers—12:20 pm
Kevin A. MacDonald, Principal, Beton Consulting Engineers LLC, Prior Lake, MN; and **Clifford N. MacDonald,** FORTA Corporation

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Tuesday, November 10, 2015

11:00 am – 1:00 pm

Formed-Surface Finish with SCC—GOVERNOR'S SQUARE 15

Sponsored by ACI Committee 237, Self-Consolidating Concrete
Session Co-Moderators: H. Celik Ozyildirim
Principal Research Scientist
Virginia Transportation
Research Council
Charlottesville, VA

Van K. Bui
Principal Scientist
BASF Construction Chemicals
Cleveland, OH

Self-consolidating concrete (SCC), which has high flowability, can fill spaces easily under its own weight. The high flowability also helps in eliminating surface blemishes (irregularities), providing a smooth formed surface. The smooth formed surface is architecturally pleasing and also meets contractual requirements on formed surface blemishes (bugholes). However, in some cases, the smooth formed surface or the architectural finish cannot be attained due to poor quality of fresh SCC and/or improper placement procedure. Poor formed surface finish usually requires costly repairs, and can affect the durability of cast elements. This session will discuss the issues of formed surface smoothness and architectural finish and provide information and case studies on how to improve the surface finish. By attending this session, attendees will be able to:
1. Understand the importance of concrete rheology on the surface finish;
2. Learn how the mixture composition affects surface finish;
3. Understand the importance of placement techniques on surface finish; and
4. Learn about case studies with improved surface finish.

Effect of Rheological Properties on the Surface Quality of SCC—11:00 am
Kamal H. Khayat, Director, Center for Infrastructure Engineering Studies, Missouri S&T, Rolla, MO

Influence of Mix Composition on Rheology Related to Surface Finish of Mortars—11:20 am
Mohammed Sonebi, Associate Professor, Queen's University Belfast, Belfast, United Kingdom; **Sofiane Amziane**, Blaise Pascal University; **Jacek Kwasny,** Queen's University Belfast; and **Julien Plasse**, Polytech Clermont-Ferrand

Designing SCC Mixtures for Challenging Architectural Applications—11:40 am
Philip S. Zacarias, Technical Services Manager, Canada Building Materials CBM, Mississauga, ON, Canada; and **Lloyd J. Keller**, and **Stacia Van Zetten**, EllisDon Corporation

Placement Techniques and Their Impact on Surface Quality—12:00 pm
Joseph A. Daczko, Business Development Manager, BASF Construction Chemicals, Cleveland, OH

SCC Applications for Improving Formed Surface Finish of Concrete Components—12:20 pm
Van K. Bui, Principal Scientist, BASF Construction Chemicals, Cleveland, OH

Achieving Architectural Concrete Surfaces at the Cathedral of Christ the Light, Oakland, California—12:40 pm
Eric Peterson, Construction Manager, Webcor Builders, San Francisco, CA

2 AIA/CES LU

11:00 am – 1:00 pm

Seismic Design of Segmental and Innovative Bridges—GOVERNOR'S SQUARE 14

Sponsored by ACI Committee 341, Earthquake-Resistant Concrete Bridges
Session Moderator: Mohamed A. El-Gawady
Associate Professor
Missouri S&T
Rolla, MO

This session will provide a forum for students, researchers, and practitioners to discuss seismic behavior of segmental and innovative bridges. Currently, there is strong momentum in the United States to develop seismic design guidelines and recommendations for segmental bridge construction. Reinforced concrete segments that can be rapidly installed on-site are usually an excellent candidate for economic accelerated bridge construction. Furthermore, several innovative construction techniques are combined with high-performance material such as ultra-high-performance concrete and fiber-reinforced polymers to accelerate bridge construction in moderate to high seismic regions. This session will present the state of the art on seismic design of segmental and innovative bridges. By attending this session, attendees will be able to:
1. Recognize ongoing research on segmental construction and other innovative techniques to accelerate bridge construction in high seismic regions;
2. Discuss design approaches related to these new construction methods;
3. Describe emerging technologies for these new construction techniques; and
4. Summarize advantages, disadvantages, and limitations of these new construction techniques.

Displacement-Based Design for Precast Segmental Unbonded Post-Tensioned Concrete Bridge Columns with Energy Dissipation Bars—11:00 am
Yu-ChenOu, Associate Professor, National Taiwan University of Science and Technology, Taipei, Taiwan; and **Ade Yuniati Pratiwi**, National Taiwan University of Science and Technology

Static Cyclic and Dynamic Behavior of Hollow-Core Bridge Columns—11:20 am
Mohamed ElGawady, Benavides Associate Professor, Missouri University of Science and Technology, Rolla, MO; and **Ayma Moustafa**, **Ahmed Gheni**, and **Omar Abdelkarim**, Missouri University of Science and Technology

An Innovative Bridge System Designed for Rapid Construction and Superior Seismic Performance— 11:40 am
John Stanton, Professor of Civil Engineering, University of Washington, Seattle, WA; **Marc Eberhard** and **Travis Thonstad** University of Washington; and **Islam Mantawy** and **David Sanders**, University of Nevada

Low-Damage Post-Tensioned Segmental Bridge Columns with Flexible End Joints for Seismic Accelerated Bridge Construction and Retrofit—12:00 pm
Mohammad Nikoukalam, PhD Student, University of Colorado–Boulder, Boulder, CO; and **Petros Sideris**, University of Colorado-Boulder

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Performance-Based Design of Unbounded Segmental Post-Tensioned Concrete Pier—12:20 pm
M. Shahria Alam, Associate Professor, The University of British Columbia, Kelowna, BC; and **Qi Zhang**, The University of Britis Columbia

A Post-Tensioned Low-Damage Precast Bridge Bent in Seismic Regions—12:40 pm
Mustafa Mashal, PhD Student, University of Canterbury, Christchurch, New Zealand; and **Alessandro Palermo,** University of Canterbury

2 AIA/CES LU

11:00 am – 1:00 pm

UHPC Innovative Applications and Constructional Concepts, Part 2 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committees 236, Material Science of Concrete; 239, Ultra-High Performance Concrete; and 544, Fiber-Reinforced Concrete

Session Moderator: Kay Wille
Assistant Professor
University of Connecticut
Storrs, CT

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 53.

UHPC NC Composite Deck Panel for Bridge Applications—11:00 am
Sriram R. Aaleti, Research Associate Professor, University of Alabama Tuscaloosa, Tuscaloosa, AL; and **Sri Sritharan,** Iowa State University

Ultra-High-Performance Concrete Shear Walls in Tall Buildings—11:20 am
Thomas C. Dacanay, Student, Virginia Polytechnic Institute and State University, Blacksburg, VA; and **Cristopher D. Moen** and **Rafic El Helou,** Virginia Polytechnic Institute and State University

UHPFRC Standardization Progress in France: Main Features of the French Standard for Material Specification, Performance, Production, and Conformity—11:40 am
Francois Toutlemonde, Engineer, IFSTTAR, Marne la Vallee, France

High-Performance Pervious Concrete—12:00 pm
Kay Wille, Assistant Professor, University of Connecticut, Storrs, CT; and **Rui Zhong,** University of Connecticut

Further Studies on the Marine Performance of UHPC—12:20 pm
Michael D A. Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada

2 AIA/CES LU

11:30 am – 1:30 pm

✓Contractors' Day Lunch—PLAZA BALLROOM A

$46 U.S. per person
Coordinated by the Rocky Mountain Chapter – ACI and the Construction Liaison Committee

Speaker: Jeff Evans
World-Class Adventurer and Mountaineering Guide
Leading Authorities, Incorporated
Washington, DC

Topic: Mountain Vision: Lessons Beyond the Summit

Join other ACI attendees and contractors for the Contractors' Day Lunch. Enjoy a special presentation by Jeff Evans, World Class Adventurer and Mountaineering Guide. Jeff will take you on a journey guiding blind climber Erik Weihenmayer on mountains and adventure races around the world, culminating with the summit of Mt. Everest and second-place finish on ABC's "Expedition Impossible." See how this translates to creating vision, accepting adversity, leadership, commitment, and teamwork.

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.*

12:30 pm – 3:30 pm

✓Bureau of Reclamation's Materials Engineering and Research Laboratory Tour—DEPART SHERATON MAIN LOBBY

$40 U.S. per person
Tour the Bureau of Reclamation's Materials Engineering and Research Laboratory (MERL) and witness a 3 ft (0.9 m) diameter by 6 ft (1.8 m) high concrete cylinder break in their 5 million lb (2.3 million kg) testing machine. The Bureau of Reclamation's research facility occupies 3-1/2 acres (1.4 ha) of the Denver Federal Center just west of downtown Denver and is home to a premier government laboratory specializing in concrete, rock mechanics, plastics, coatings, and other materials. Participants will need to bring government-issued photo ID and should plan to wear comfortable closed-toe/-heel shoes and long pants. **Preregistration is required. Tour tickets will not be sold on-site.**

Tours are nonrefundable. *All tours depart from the Sheraton Lobby.*

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Tuesday, November 10, 2015

1:30 pm – 3:30 pm

Contractors' Day Session: Constructability, Part 2 of 2—GOVERNOR'S SQUARE 14

Sponsored by the Rocky Mountain Chapter – ACI
Session Moderator: Kim Basham
Senior Structural Engineer
KB Engineering LLC
Cheyenne, WY

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 52.

Winter Sports, Winter Risks, Winter Concrete—1:30 pm
Kenneth C. Hover, Professor of Structural Engineering, Cornell University, Ithaca, NY

Tolerances versus Constructability—2:00 pm
Bruce A. Suprenant, Senior Construction Engineer, American Society of Concrete Contractors, Boulder, CO

Handling Reinforcement Congestion—2:30 pm
Neal S. Anderson, Vice President of Engineering, Simpson Gumpertz & Heger, Chicago, IL; and **Matthew H. Johnson,** Simpson Gumpertz & Heger Incorporated

2 AIA/CES LU

1:30 pm – 3:30 pm

Crack Width Determination for Liquefied Natural Gas Containment Concrete Structures and Environmental Engineering Concrete Structures, Part 1 of 2—GOVERNOR'S SQUARE 15

Sponsored by ACI Committees 350, Environmental Engineering Concrete Structures, and 376, Concrete Structures for Refrigerated Liquefied Gas Containment
Session Moderator: Kare Hjorteset
Principal Engineer
DNV GL
Houston, TX

Papers on the state of the art of analytical procedures for calculating crack widths in prestressed concrete structures for both normal and cryogenic conditions will be presented. A comparison of results for various calculation approaches and material descriptions for nonlinear calculation will be given. The calculation methods for liquefied natural gas (LNG) tank and water tank are demonstrated in separate sessions. The crack width development for transient liquid spill load case is analyzed.
By attending this session, attendees will be able to:
1. Review the development of crack width calculation and illustration of the different American and European approaches;
2. Receive information on the current developments of crack width calculation in several European countries;
3. Understand crack width calculation of offshore oil storage gravity-based structures GBS; and
4. Explain the process of determining new calculating approaches and limitation requirements within ACI Committee 376, Concrete Structures for Refrigerated Liquefied Gas Containment.

Design Considerations for Volume Change, Curing, Cracking, and Construction Joints—1:30 pm
Carl A. Gentry, Chief Structural Engineer, Carollo Engineers, Concord, CA

Temperature and Shrinkage Cracking in Base Restrained Reinforced Concrete Tank Walls—2:10 pm
M Reza Kianoush, Professor, Ryerson University, Toronto, ON, Canada; and **Dylan J. Matin**, Ryerson Unversity

Basis of ACI 350 Code Provisions Relative to Crack Width Estimates—2:30 pm
Karl C. Kuebitz, Associate Engineer, DYK Incorporated, Doha, Qatar

Crack Control Approaches for Circular Wire-Wrapped Prestressed Concrete Tanks—2:50 pm
Daniel J. McCarthy, Senior Project Engineer, Preload Incorporated, Hauppauge, NY; and **Sanjay S. Mehta,** Preload Incorporated

2 AIA/CES LU

1:30 pm – 3:30 pm

Methods for Measurement and Mitigation of Early-Age Deformations, Part 1 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committees 231, Properties of Concrete at Early Ages, and 236, Material Science of Concrete
Session Co-Moderators: Jason H. Ideker
Assistant Professor
Oregon State University
Corvallis, OR

Gaurav N. Sant
Assistant Professor and Vice Chair
University of California, Los Angeles
Los Angeles, CA

This session will provide information related to early-age deformation in cementitious systems. Innovative measurement techniques will be highlighted, as well as the advantages and/or limitations of new and current test methods. Presenters will also demonstrate the use of new techniques to measure early-age deformation in traditional portland cement-based systems as well as alternative cementitious systems and new binder systems. Also highlighted will be the efficacy of different strategies to mitigate early-age deformations that may be detrimental to short- or long-term performance of these systems. The research presented in this session contains both experimental techniques and numerical modeling. Transferring early-age measurement knowledge base to the field will round out this informative session.
By attending this session, attendees will be able to:
1. Understand current innovative measurement techniques for early-age deformations;
2. Recognize challenges/limitations to existing methods of measurements;
3. Use new methods of early-age measurements to evaluate the efficiency and efficacy of strategies for deformation mitigation; and
4. Provide tools to researchers and practitioners to evaluate and interpret results of early-age deformation measurements.

Early-Age Expansion of Calcium Sulfoaluminate Cements: Experiments and Modeling—1:30 pm
Piyush Chaunsali, Postdoctoral Research Assistant, University of Illinois, Urbana, IL; and **Paramita Mondal,** University of Illinois

Release and Distribution of Water during Internal Curing with Lightweight Aggregates—1:55 pm
Mateusz Wyrzykowski, Postdoctoral Research Fellow, EMPA, Swiss Federal Laboratories for Materials Science and Technology, Dubendorf, Switzerland; and **Pietro Lura,** EMPA Switzerland

Early-Age Desiccation Shrinkage of Cement Paste Associated with Dissolution of Cement Grains—2:20 pm
Xiaodan Li, PhD Candidate, Texas A&M University, College Station, TX; and **Zachary Grasely,** Texas A&M University

Moving Shrinkage Mitigation from Concept to Practice: Design Approaches, Field Experiences, and the Suitability of Tests to Specify Low Cracking Potential—2:45 pm
Tim Barrett, Graduate Research Assistant, Purdue University, West Lafayette, IN; and **W. Jason Weiss,** Purdue University

2 AIA/CES LU

1:30 pm – 3:30 pm

Open Topic Session, Part 1 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committee 123, Research and Current Developments
Session Moderator: Aaron K. Larosche
Staff Engineer
Pivot Engineers
Austin, TX

The Open Topic Presentations 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 material aspects of concrete; and
4. Explain the behavior of various high-performance cementitious composites.

Using Neutron Radiography to Measure the Absorption—1:30 pm
C. L. Lucero, Graduate Research Assistant, Purdue University, West Lafayette, IN; **R. P. Spragg,** and **W. J. Weiss,** Purdue University; and **D. P. Bentz**, **D. S. Hussey**, and **D. L. Jacobsen**, National Institute of Standards and Technology

Dynamic Plastic Shrinkage Crack Predictor App—1:50 pm
Anne Werner, Assistant Professor, Southern Illinois University, Edwardsville, IL; and **Mark Grinter**, Southern Illinois University

The Influence of Filler Type and Surface Area on the Hydration Rates of Calcium Aluminate Cement—2:10 pm
Guillermo Puerta-Falla, Graduate Student Researcher and PhD Candidate, University of California, Los Angeles, CA; **Narayan Neithalath,** Arizona State University; and **Aditya Kumar**, **Lauren Gomez-Zamorano**, **Mathieu Bauchy**, and **Gaurav Sant**, University of California Los Angeles

New Approach to Air Void Clustering in Concrete—2:30 pm
Jan Vosahlik, PhD Student, Kansas State University, Manhattan, KS; **Randal Billinger**, Kansas Department of Transportation; **Heather McLeod**, James Madison University; and **Kyle A. Riding** and **Asad Esmaeily**, Kansas State University

Composite retrofit for Axial Load-Bearing Members in Acid Environments—2:50 pm
Yongcheng Ji, PhD Student, University of Colorado Denver, Denver, CO; and **Yail J. Kim**, University of Colorado Denver

Ductility Behavior of Corroded Bars in Concrete Slabs—3:10 pm
Jeremiah Fasl, Associate III, Wiss, Janney, Elstner Associates, Inc., Austin, TX; and **Carl J. Larosche** and **John Fraczek**, Wiss, Janney, Elstner Associates, Inc.

2 AIA/CES LU

1:30 pm – 4:30 pm

✓National Renewable Energy Laboratory Tour—DEPART SHERATON MAIN LOBBY

$20 U.S. per person
Participants will need to complete a Foreign National Data Card to participate in this tour. ACI will contact you with details. The National Renewable Energy Laboratory's Energy Systems Integration Facility in nearby Boulder, CO, was established in 2013 by the U.S. Department of Energy as the nation's premier facility for research, development, and demonstration of the components and strategies needed to optimize energy systems in the United States. The tour is open to all registered convention attendees, but space is extremely limited. The $20 registration fee includes transportation between the Denver Sheraton and National Renewable Energy Laboratory. Participants will need to bring government-issued photo ID and should plan to wear comfortable, closed-toe/-heel shoes and long pants. **Preregistration is required**. **Tour tickets will not be sold on-site**.

Tours are nonrefundable. *All tours depart from the Sheraton main Lobby.*

4:00 pm

Beer Garden—PLAZA EXHIBIT HALL

All attendees are invited to stop by the Beer Garden in the Exhibit Hall. The Beer Garden is sponsored in part by DRP Consulting, Inc., Intelligent Concrete, and the Rocky Mountain Chapter – ACI.

4:00 pm – 6:00 pm

Crack Width Determination for Liquefied Natural Gas Containment Concrete Structures and Environmental Engineering Concrete Structures, Part 2 of 2—GOVERNOR'S SQUARE 15

Sponsored by ACI Committees 350, Environmental Engineering Concrete Structures, and 376, Concrete Structures for Refrigerated Liquefied Gas Containment
Session Moderator: Kare Hjorteset
Principal Engineer
DNV GL
Houston, TX

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 56.

The Crack Width Prediction in EN 13084 and CICIND MC Close to Reality Bonding Orientated Approach—4:00 pm
Piotr Noakowski, Principal Engineer, Exponent Industrial Structures, Dusseldorf, Germany; **Piotr D. Moncarz,** Exponent; and **Andreas Harling,** Exponent

Numerical Investigation on Crack Width Development at Liquid Spill—4:20 pm
Sebastian Schuerzinger, Engineer, Strabag International GmbH, Munich, Germany; and **Mario Wilke,** Strabag International GmbH

Crack Control in Reinforced Prestressed Structures: the New Technical Bulletin of the German Association for Concrete and Construction Techniques—4:40 pm
Otto Wurzer, Managing Director, WTM Engineers GmbH, Munich, Germany

Calculating Crack Width for Structural Concrete Members—5:00 pm
Robert J. Frosch, Professor, Civil Engineering & Associates Dean of College of Engineering, Purdue University, West Lafayette, IN

Crack Width Calculations Based on Norwegian Standards NS 3473.E: 2003 Considering Transverse Reinforcement—5:20 pm
Widianto, Structural Engineer, ExxonMobil Development Co., St. John's, NL, Canada; and **Jameel U. Khalifa,** Exxon Mobil

Concrete Structures Crack Width and Liquid Tightness Requirements Comparisons between European and American Codes and Standards—5:40 pm
Kare Hjorteset, Principal Engineer, DNV GL, Houston, TX

2 AIA/CES LU

Tuesday, November 10, 2015

4:00 pm – 6:00 pm

Methods for Measurement and Mitigation of Early-Age Deformation, Part 2 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committees 231, Properties of Concrete at Early Ages, and 236, Material Science of Concrete
Session Co-Moderators: Jason H. Ideker
Assistant Professor
Oregon State University
Corvallis, OR

Gaurav N. Sant
Assistant Professor and Vice Chair
University of California, Los Angeles
Los Angeles, CA

The session description and learning objectives for this session may be found in the Part 1 listing; see page 56.

New Approach to Measure Early-Age Shrinkage of Cement Paste Grout with Admixtures—4:00 pm
Akthem A. Al Manaseer, Professor/Chair, San Jose State University, San Jose, CA; and **Yvette Valadez Carranza,** San Jose State University

Monitoring Early-Age Deformation for Mitigation of Cracking in Mass Concrete—4:20 pm
Matthew Dominick D'Ambrosia, Sr. Engineer Materials Consulting & Mechanics, CTLGroup, Skokie, IL

Limitations to Early-Age Volume Changes in Paste, Mortar, and Concrete—4:40 pm
Tyler Deboodt, Faculty Research Assistant, Oregon State University, Corvallis, OR; and **Jason H. Ideker,** Oregon State University

Digital Image Correlation on a 2-D Restrained Slab to Quantify the Early-Age Shrinkage Cracking Characteristics of Binder Systems—5:00 pm
Vikram Dey, Student, Arizona State University, Tempe, AZ; **Barzin Mobasher, Narayanan Neithalath,** and **Akash Dakhane,** Arizona State University; **Amir Bonakdar,** Euclid Chemical; and **Mehdi Bakshi,** AECOM

The Energy Indicator: A Quantitative Metric for Characterizing the Reduction in Thermal Cracking Risk in Cementitious Composites Containing Phase Change Materials—5:20 pm
Gabriel Falzone, Student, University of California, Los Angeles, Alameda, CA; **Narayanan Neithalath,** Arizona State University; and **Gaurav N. Sant, Alexander Thiele, Zhenhua Wei,** and **Laurent Pilon,** University of California, Los Angeles

2 AIA/CES LU

4:00 pm – 6:00 pm

Open Topic Session, Part 2 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committee 123, Research and Current Developments
Session Moderator: Aaron K. Larosche
Staff Engineer
Pivot Engineers
Austin, TX

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 57.

Modular Strong-block Testing System—4:00 pm
Chris Carroll, Assistant Professor, Saint Louis University, Saint Louis, MO; and **Jacob Benton**, University of Louisiana at Lafayette

Effect of Shear Stud Layout on the Behavior of Reinforced Concrete Slab-Column Connections under Gravity Loading—4:20 pm
Thai X. Dam, Graduate Assistant, University of Michigan, Ann Arbor, MI; **James K. Wight**, University of Michigan; and **Gustavo J. Parra-Montesinos**, University of Wisconsin-Madison

Structural Evaluation and Design of Reinforced Concrete Bunkers in High-Speed Balancing Facilities—4:40 pm
Pericles C. Stivaros, President, GEI Consultants, Inc., Jericho, NY

A Nonlocal Flexibility-based Frame Element for Seismic Analysis of Reinforced Concrete Structures—5:00 pm
Mohammad Salehi, Graduate Research Assistant and PhD Student, University of Colorado-Boulder, Boulder, CO; and **Petros Sideris**, University of Colorado-Boulder

Probablistic Finite Element and Sensitivity Analysis of Interior Reinforced Concrete Flat Slabs—5:20 pm
Georgios P. Balomenos, PhD Candidate, University of Waterloo, Waterloo, ON; and **Aikaterini S. Genikomsou**, **Maria Anna Polok**, and **Mahesh D. Pandey**, University of Waterloo

Numerical Analysis of a Retrofitted Caisson Foundation for Uplift Loads: A Case Study—5:40 pm
Serhan Guner, Assistant Professor, University of Toledo, Toledo, OH

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

4:00 pm – 6:00 pm

Proportioning with Ground Limestone and Mineral Filler, Part 1 of 2—GOVERNOR'S SQUARE 14

Sponsored by ACI Committees 211, Proportioning Concrete Mixtures; 237, Self-Consolidating Concrete; and ACI Subcommittee 211-N, Proportioning with Ground Limestone and Mineral Fillers

Session Moderator: Eric P. Koehler
Director of Quality
Titan America
Medley, FL

This session will introduce the new document developed by ACI Subcommittee 211-N, "Guide to Proportioning Concrete Mixtures with Ground Limestone and Other Mineral Fillers," and provide case studies for ground limestone and mineral filler.
By attending this session, attendees will be able to:
1. Become familiar with ACI 211N, "Guide to Proportioning Concrete Mixtures with Ground Limestone and Other Mineral Fillers";
2. Understand properties and characterizations techniques for ground limestone and mineral filler;
3. Develop and/or evaluate mixture proportions incorporating ground limestone or mineral filler; and
4. Include ground limestone and mineral fillers in specifications.

Introducing ACI 211N: Guide to Proportioning Concrete with Ground Limestone and Other Mineral Filler—4:00 pm
Eric P. Koehler, Director of Quality, Titan America, Medley, FL

Performance of SCC Made with Limestone Fillers—4:25 pm
Kamal H. Khayat, Director, Center for Infrastructure Engineering Studies, Missouri S&T, Rolla, MO

Utilization of Crushed Stone Mineral Filler (Microfines) in Ready Mixed Concrete—4:45 pm
Teck L. Chua, Manager - Technical Services, Vulcan Materials Company, Herndon, VA

Hydration and Strength Development in Ternary Portland Cement Blends Containing Limestone and Fly Ash or Metakaolin—5:10 pm
Kirk E. Vance, Student, Arizona State University, Scottsdale, AZ; **Narayanan Neithalath** and **Matthew J. Aguayo,** Arizona State University; and **Tandre Oey,** University of California, Los Angeles

Sulfate Resistance of Portland Limestone Cement Concrete in Combination with Supplementary Cementitious Materials—5:35 pm
Reza Ahani, PhD Candidate, University of Toronto Canada, Toronto, ON, Canada; and **R. Doug Hooten,** University of Toronto

2 AIA/CES LU

5:30 pm – 6:30 pm

Faculty Network Reception—TOWER COURT D

Faculty members and students are invited to attend this informal reception for an opportunity to exchange ideas and network. Light hors d'oeuvres and a cash bar will be available.

6:30 pm – 8:00 pm

Concrete Mixer: Denver Brew-Ski—PLAZA BALLROOM

Join ACI attendees and guests for an evening of networking, entertainment, and great food during the Concrete Mixer, held at the Sheraton. Local craft beer from some of Colorado's best breweries will be available, along with an assortment of delicious food.

Wednesday, November 11, 2015

5:00 am and 6:00 am

Run/Walk Meet-Up—SHERATON LOBBY

Looking for a running or walking partner? This is a great opportunity to meet up with other ACI attendees before heading out for your morning run or walk. Local area maps are available at the hotel concierge desk. All are welcome!
**Please consult your physician to determine if you are fit for this type of activity. Run/walk at your own risk.*

6:00 am – 6:45 am

Morning Yoga Class— FITNESS CENTER FOYER

Interested in putting a little balance into your hectic week? Whether you have regularly practiced yoga or have never tried it, this session will help you get your body and mind grounded for the day and week ahead. Led by ACI Marketing Committee Chair and yoga teacher Kimberly Kayler, this intro to yoga class requires no experience. You don't have to be able to twist into a pretzel or even touch your toes! Registration is not required and a limited amount of yoga mats will be provided.
**Please consult with your physician to determine if you are fit for this type of activity.*

8:00 am – 12:00 pm

Concrete Sustainability Forum 8—VAIL

Sponsored by ACI Committees 201, Durability of Concrete; 236, Material Science of Concrete; and 349, Concrete Nuclear Structures

Session Co-Moderators: Koji Sakai
FACI & Representative
Japan Sustainability Institute
Sapporo, Japan

Julie Buffenbarger
Construction Specialist
Lafarge
Medina, Ohio

During ACI's eight Concrete Sustainability Forums, global experts will provide an update on new technologies, sustainability assessment systems, and sustainable design from countries around the world. Free to all convention attendees.
By attending these sessions, the attendee will be able to:
1. Understand sustainability components in *fib* Model Code 2010, ACI Building Code 2014, and United Nations Environmental Programme, as well as opportunities for the future;
2. Learn how severe environmental restrictions led to innovative construction methods that maintained worker safety and controlled cost;
3. Identify opportunities to conserve energy and reduce emissions in the cement sector through government policy, technical innovation, and industry involvement; and
4. Learn best practices in sustainable design and construction from recent projects and experts in China, India, Japan, Switzerland, the United States, and more.

Introduction & Welcome—8:00 am
Koji Sakai, FACI & Representative, Japan Sustainability Institute; Sapporo, Japan; and **Julie Buffenbarger**, Larfarge

What Do We Have to Change for Sustainability? Evolution in Design of Concrete Structure—8:15 am
Koji Sakai, FACI & Representative, Japan Sustainability Institute, Sapporo, Japan

A Case Study towards the Realization of Sustainability Design: Sustainability Evaluation of a Reinforced Concrete Viaduct Construction—8:40 am
Toshio Shibata, Director of Civil Engineering Division, Sumitomo Mitsui Construction Company, Ltd., location

Perspective of A Low-Carbon Chinese Cement Industry—9:05 am
SUI Tongbo, Sinoma International Engineering Company, Ltd., Beijing, China

Perspectives on the Future of Cements—9:30 am
Karen L. Scrivener, Director of General of Sinoma Research Institute, Laboratory of Construction Materials, Lausanne, Switzerland

The Importance of Indian Leadership in Cement and Construction Industry for Global Sustainable Development—10:15 am
Surendra K. Manjrekar, Chairman & Managing Director, SUNANDA Specialty Coatings Pvt. Ltd., Sunanda, India

Spotting Differences in Carbon Footprints—10:40am
Emily B. Lorenz, Principal Engineer, Independent Consultant, Chicago, IL

An Indroduction to STAR Communities—11:05 am
Alex Helling, Technical Specialist, Star Communities, Washington, DC

Wrap-Up and Discussion—11:05 am
Alex Helling, Technical Specialist, Star Communities, Washington, DC

4 AIA/CES LU

Wednesday, November 11, 2015

8:30 am – 10:30 am

Cementitious Materials for Nuclear Waste Storage and Disposal, Part 1 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committees 201, Durability of Concrete; 236, Material Science of Concrete; and 349, Concrete Nuclear Structures

Session Co-Moderators: Christopher A. Jones
Technical Staff
Sandia National Laboratories
Albuquerque, NM

Matthew Dominick D'Ambrosia
Senior Engineer Materials Consulting & Mechanics
CTLGroup
Skokie, IL

Cementitious materials have widespread use in nuclear waste storage and disposal applications, including waste form stabilization, dry storage structures, and repository applications, and in each application, the use of cement-based materials presents unique challenges. For cement-stabilized wastes and repository applications, the transport of radionuclides through the cementitious materials is of great concern, as certain radionuclides are highly mobile in high-pH pore fluid. For intermediate-term dry storage, thermal, radiation, and environmental loading can influence degradation of the portland cement concrete structures, which in turn impacts safe storage.
This session will address the measurement and modeling of properties that will improve the understanding and prediction of the long-term structural, hydraulic, and chemical performance of cementitious materials used in nuclear waste disposal. By attending these sessions, the attendee will be able to:
1. Identify various applications for cementitious materials in the field of nuclear waste disposal;
2. Engage professionals in the nuclear waste disposal community;
3. Learn about various challenges facing the waste disposal industry; and
4. Describe the integrated material structural thermal design environment for a variety of waste disposal concepts.

Performance of Deteriorated Dry-Cask Storage Systems Subjected to Impact Loading—8:30 am
Bora Gencturk, Assistant Professor, University of Houston, Houston, TX; and **Mohammad Hanifehzadeh,** University of Houston

Operating Experience for Concrete Structures in Dry Storage Systems—8:55 am
Ricardo Torres, Materials Engineer, Spent Fuel Management, Rockville, MD

Concrete Over Packs in Dry-Cask Storage Containment Units—9:20 am
Salvador Villalobos Chapa, Technical Lead, Electric Power Research Institute, Charlotte, NC; and **Samuel Johnson,** Electric Power Research Institute

Development of Ultra-High-Performance Concretes for Dry Cask Waste Storage Applications—9:45 am
Christopher H. Conley, Associate Professor, United States Military Academy, West Point, NY; and **Robert Moser,** U.S. Army ERDC

2 AIA/CES LU

8:30 am – 10:30 am

Natural Pozzolans for Sustainable Construction, Part 1 of 2—GOVERNOR'S SQUARE 14

Sponsored by ACI Committees 130, Sustainability of Concrete; 201, Durability of Concrete; and 240, Natural Pozzolans

Session Moderator: Prasad Rangaraju
Professor
Clemson University
Clemson, SC

The use of natural pozzolans in concrete has been a proven technology for producing durable concrete structures for the last 2000 years. In the last 100 years, natural pozzolans have been extensively used in the construction of dams and other mass concrete structures in the United States and other parts of the world. Their use in concrete has gained a resurgence in more recent years as the importance of pozzolans in improving the durability of concrete has been recognized along with the need to develop more sustainable solutions to our growing demand for construction materials. Nevertheless, the widespread use of natural pozzolans in everyday concrete is yet to happen. A possible reason for the inertia in using natural pozzolans is a lack of adequate knowledge and experience among specifying agencies about material characteristics of natural pozzolans and their impact on properties of concrete. This session will address an overview of the variety of materials classified as natural pozzolans and how these materials affect properties of concrete. Presentations in this session will provide a historical background on natural pozzolans and illustrate the performance of concrete containing these materials. Engineers, contractors, and concrete suppliers will benefit by attending this session by learning about properties of various natural pozzolans and their impact on engineering properties of concrete.

By attending this session, attendees will be able to:
1. Learn about the historical use of natural pozzolans in concrete structures and their performance;
2. Recognize the diversity of natural pozzolans that are commercially available for use in concrete;
3. Learn about the effects of various natural pozzolans on mechanical and durability properties of concrete; and
4. Learn about the benefits of using natural pozzolans in concrete from sustainability considerations.

History of Natural Pozzolan Use at the Bureau of Reclamation—8:30 am
Veronica Madera, Civil Engineer, Bureau of Reclamation, Denver, CO

Natural Pozzolans: the Petrographic Perspective—8:50 am
John M. Fox, Petrographer, BASF Corporation, Construction Chemicals Division, Cleveland, OH

The Efficacy of Mitigating Alkali Silica Reaction (ASR) in Concrete by Incorporating Calcined Clays from Difference Sources: Discussion on Mechanisms and Long-Term Performance—9:10 am
Jason H. Ideker, Associate Professor, Oregon State University, Corvallis, OR; **Thano Drimalas,** University of Texas at Austin; and **Chang Li,** Oregon State University

Pumice Pozzolan's Effect in Ternary Cementitious Blends—9:30 am
Joseph E. Thomas, VP Business Development & Marketing, Magmatics Incorporated, Malad City, ID

Efficiency of Ternary Blends Containing Finely Ground Recycled Glass Powder in Mitigating Alkali Silica Reaction—9:50 am
Prasad Rangaraju, Professor, Clemson University, Clemson, SC; and **Kaveh Afshinnia,** Clemson University

2 AIA/CES LU

8:30 am – 10:30 am

SHM Real-Life Applications, Part 1 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committee 444, Structural Health Monitoring and Instrumentation

Session Co-Moderators: Hani H. Nassif
Professor
Rutgers, The State University of New Jersey
Piscataway, NJ

Devin K. Harris
Assistant Professor
University of Virginia
Charlottesville, VA

Structural health monitoring (SHM) is a process aimed at providing actionable, accurate, and in-time information concerning structural health condition and performance of concrete structures. The information obtained from monitoring is generally used to plan and design maintenance activities, to increase the safety and to mitigate post-event consequences, to verify hypotheses, to reduce uncertainty, and to widen the knowledge concerning the concrete structure being monitored. While SHM benefits have great promise, SHM is still not applied in a widespread manner, and the end users are frequently reluctant to apply it. The aims of this full-day session are:
1. To pull together several examples of SHM real-life applications, raise awareness about how the SHM is applied, understand
The overall behavior of concrete structure, and identify related challenges; and
2. To present case studies of SHM real-life applications and assess the corresponding SHM benefits, and present them to interested parties and broader public by presentations during the session.
By attending this session, attendees will be able to:
1. Recognize the advantage of SHM technologies to improve the understanding of concrete quality control and constructability during and after construction;
2. Analyze the service life of concrete structures using SHM data;
3. Evaluate the materials and structural performance using SHM technologies; and
4. Summarize recent technological advances related to its application in SHM of concrete structures.

Case studies in SHM of Concrete Structures for Various Projects in New Jersey—8:30 am
Hani H. Nassif, Professor, Rutgers, The State University of New Jersey, Piscataway, NJ

High Fidelity Sensing with Near Field Microwave for Chloride Penetrated Concrete Composite Interface: Conceptual Development toward Field Application—8:50 am
Yail Jimmy Kim, Associate Professor, University of Colorado Denver, Denver, CO; and **Ibrahim F. Bumadian**, **Cheng Peng,** and **Yiming J. Deng,** University of Colorado Denver

Acoustic Emission Monitoring of a Reinforced Concrete Deck Girder Bridge during In-Service Load Testing—9:10 am
Thomas Schumacher, Assistant Professor, Portland State University, Portland, OR; and **Lassaad Mhamdi,** University of Delaware

Assessment of Transverse Cracking on Bridge Deck at Early Age—9:30 am
Nakin Suksawang, Associate Professor, Florida Institute of Technology, Melbourne, FL; and **Hani H. Nassif,** Rutgers, The State University of New Jersey

Live Load Test Monitoring of a Three-Span Continuous Prestressed Concrete Girder Bridge—9:50 am
Ayman M. Okeil, Professor, Louisiana State University, Baton Rouge, LA; and **Tanvir Hossain,** Louisiana State University

Multiyear Monitoring of Live Load on Bridges in Alabama —10:10 am
Andrzej S. Nowak, Professor, Auburn University, Auburn, AL; and **Olga Itsko,** Auburn University

2 AIA/CES LU

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Wednesday, November 11, 2015

11:00 am – 1:00 pm

Cementitious Materials for Nuclear Waste Storage and Disposal, Part 2 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committees 201, Durability of Concrete; 236, Material Science of Concrete; and 349, Concrete Nuclear Structures

Session Co-Moderators: Christopher A. Jones
Technical Staff
Sandia National Laboratories
Albuquerque, NM

Matthew Dominick D'Ambrosia
Sr. Engineer Materials Consulting & Mechanics
CTLGroup
Skokie, IL

The session description and learning objectives for this session may be found in the Part 1 listing; see page 60.

Result of Concrete Pastes Exposed to Alkaline Sodium Sulfate and Sodium Nitrate Solutions—11:00 am
Christine A. Langton, Advisory Scientist, Savannah River Nuclear Solutions, Aiken, SC; and **Eric Samson,** Simco Technologies Incorporated

Reactive Transport and Thermodynamic Modeling of Cement Clay Interactions—11:25 am
Carlos Jove Colon, Technical Staff, Sandia National Laboratories, Albuquerque, NM

Development and Characterization of a Waste Form for Hanford Secondary Waste —11:50 am
Alex D. Cozzi, Senior Engineer, Savannah River National Laboratory, Aiken, SC

Novel Approach for Containment of Corium (Melted Reactor Material)—12:15 pm
John W. Gajda, Senior Principal Engineer, CTLGroup, Skokie, IL; and **Marcin Tlustochowicz** and **Don Broton,** CTLGroup

2 AIA/CES LU

11:00 am – 1:00 pm

Deflections and Construction Tolerances: The Good, The Bad, and The Ugly, Part 1 of 2—GOVERNOR'S SQUARE 15

Sponsored by ACI Committees 117, Tolerance, and 435, Deflection of Concrete Building Structures

Session Moderator: Dylan Freytag
Principal
Pivot Engineers
Austin, TX

Demands for thinner, lighter structures, coupled with advances in material strengths, construction techniques, and structural analysis software, make serviceability an increasingly important limit state for modern concrete buildings and bridges. This session tackles concrete issues related to deflections, particularly through the lens of constructability. The session will highlight project successes and misfires and delve into reasons leading to the outcomes.
By attending this session, attendees will be able to:
1. Recognize how construction tolerances can affect concrete deflections;
2. Understand how to manage expectations for concrete deflections;
3. Recognize the importance of considering long-term and total deflections for serviceability; and
4. Learn specific contractor efforts to consider for mitigating deflections.

350 Mission: High-Performance Flat-Plate Post-Tension Design with Innovative Multi-Story Construction Methodologies—11:00 am
Eric S. Peterson, Senior Superintendent, Webcor Builders, Knightsen, CA; and **David Shook,** Skidmore, Owings & Merrill LLP

Effect of Early-Age Material Properties on Concrete Slab Deflections—11:25 am
Caitlin Mancuso, Student, University of Western Ontario, London, ON, Canada; and **F Michael Bartlett,** University of Western Ontario

What to Expect with Your Deflections—11:50 am
Michael E. Ahern, Principal, Pivot Engineers, Austin, TX; and **Dylan Freytag,** Pivot Engineers

Incremental and Total Long-Term Deflection Calculation (Including the Effect of Construction Loads) Using SAFE—12:15 pm
Kevin MacLean, Associate, Read Jones Christofferson Ltd., Toronto, ON, Canada; **Tibor Kokai,** Read Jones Christofferson Ltd.; and **Graham Fitzgerald**, Halcrow Yolles

Lessons Learned from Deflection Issues During Construction—12:40 pm
Bruce A. Suprenant, Technical Director, American Society of Concrete Contractors, Boulder, CO

2 AIA/CES LU

11:00 am – 1:00 pm

SHM Real-Life Applications, Part 2 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committee 444, Structural Health Monitoring and Instrumentation

Session Co-Moderators: Michael C. Brown
Associate Director
Virginia Center for Transportation Innovation & Research
Charlottesville, VA

Nakin Suksawang
Associate Professor
Florida Institute of Technology
Melbourne, FL

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 61.

Live Load Test and Long-Term Monitoring of the Varina Enon Bridge—11:00 am
Carin L. Roberts Wollmann, Assistant Professor, Virginia Tech, Blacksburg, VA; **Marc Maguire,** Utah State University; and **Thomas Cousins,** Virginia Tech

Long-Term Monitoring of Pretensioned Bridge Piles in Salt Water—11:20 am
H R Trey Hamilton, Professor, University of Florida, Gainesville, FL

Performance Measurement of Voided Slab Concrete Bridge Synergy of Current and Emerging SHM Technologies—11:40 am
Devin K. Harris, Assistant Professor, University of Virginia, Charlottesville, VA; and **Bernard L. Kassner, Amir Gheitasi,** and **Marc E. Hansen,** University of Virginia

Comparative Analysis of Different Technologies to Measure the Vertical Deflection in High-Span High-Rise Concrete Box-Girder Viaducts—11:55 am
Miguel Angel Vicente, Professor, University of Burgos, Burgos, Spain; and **Dorys Carmen Gonzalez,** University of Burgos

Monitoring the Structural Health of a Bridge during Fatigue Repair and Rehabilitation with a New Lightweight Concrete Deck—12:10 pm
Michael C. Brown, Associate Director, Virginia Center for Transportation Innovation & Research, Charlottesville, VA; and **Bernard L. Kassner,** Virginia Center for Transportation Innovation & Research

Strain-Based Monitoring of the Streicker Bridge Using Fiber-Optic Sensors—12:25 pm
Branko Glisic, Associate Professor, Princeton University, Princeton, NJ; and **Dorotea Hoeg Sigurdardottir, Hiba Abdel Jaber,** and **Jack Reilly,** Princeton University

Short- and Long-Term Field Evaluation of Pavements at O'Hare International Airport—12:40 pm
Jacob Henschen, Visiting Instructor, Valparaiso University, Valparaiso, IN; and **David A. Lange, Jeffery R. Roesler,** and **Armen Amirkhanian,** University of Illinois

2 AIA/CES LU

11:00 am – 1:00 pm

Use of FRP Reinforcement in New Concrete Columns, Part 1 of 2—GOVERNOR'S SQUARE 14

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

Session Co-Moderators: Shahria Alam
Associate Professor
University of British Columbia
Kelowna, BC, Canada

Aly Said
Associate Professor
The Pennsylvania State University
University Park, PA

The use of fiber-reinforced polymer (FRP) in construction provides the advantage of protection against corrosion. It can also provide magnetic-free construction for special applications, such as magnetic levitation trains or MRI units in hospitals. Unlike steel, FRP reinforcement behaves linearly up to failure, which affects the overall performance of FRP reinforced columns. Furthermore, the majority of FRP reinforced members tested in the literature are beams under tensile monotonic loading, while FRP reinforcement in columns is mainly subjected to compressive loads and sometimes reversed loading. This session will present research findings on testing FRP reinforced columns based on experimental and analytical studies. This will help advance the use of FRP reinforcement in new construction as well as advance FRP design code development.
By attending this session, attendees will be able to:
1. Highlight ongoing research studies on the performance of FRP RC columns;
2. Present recent findings regarding the behavior of FRP RC sections under axial and combined axial/flexure loads;
3. Discuss the new experimental approaches for FRP RC columns; and
4. Summarize new design guidelines adopted by several codes and standard.

FRP Reinforced Short and Concrete Long Columns—11:00 am
Issam E. Harik, Professor, University of Kentucky, Lexington, KY; **Ching Chiaw Choo,** California State University Fresno; and **Hans Gesund,** University of Kentucky

A Comparative Study on FRP Internally Reinforced Concrete Columns—11:25 am
Mohammad Zaki Afifi, Student, Sherbrooke University, Sherbrooke, QC, Canada; and **Brahim Benmokrane** and **Hamdy Mohamed,** University of Sherbrooke

Dry Fiber Confinement in Reinforced Concrete Stub Columns—11:50 am
Ahmed Abd El Fattah, Assistant Professor, King Fahd University, Dhahran, Saudi Arabia; and **Hayder A. Rasheed,** Kansas State University

Eccentric Behavior of Circular Concrete Columns Reinforced with GFRP Reinforcement—12:15 pm
Ahmed A. Abdeldayem, PhD candidate, The University of Sherbrooke, Sherbrooke, QC, Canada; and **Brahim Benmokrane** and **Hamdy Mohamed,** University of Sherbrooke

Performance of Concrete Columns Reinforced by FRP Compared to Conventional Steel—12:40 pm
Asad Esmaeily, Professor, Kansas State University, Manhattan, KS; and **Fatemeh Shirmohammadi,** Kansas State University

2 AIA/CES LU

1:30 pm – 3:30 pm

Deflections and Construction Tolerances: The Good, The Bad, and The Ugly, Part 2 of 2—GOVERNOR'S SQUARE 15

Sponsored by ACI Committees 117, Tolerance, and 435, Deflection of Concrete Building Structures

Session Moderator: Dylan Freytag
Principal
Pivot Engineers
Austin, TX

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 62.

Planning for the Control of Construction Tolerances and Deflections—1:30 pm
Eamonn F. Connolly, Structural Engineer, James McHugh Construction Co, Chicago, IL; and **Aaron Spahn, Brett A. Szabo,** and **Bryan P. Flynn,** James McHugh Construction Co.

Design Recommendations to Improve the Accuracy of Serviceability Computations—1:55 pm
Dave Mante, Student, Auburn University, Auburn, AL; and **Anton Karel Schindler** and **Robert W. Barnes,** Auburn University

Effect of Deflection and Slab Curling on Floor Flatness—2:20 pm
Ward R. Malisch, Technical Director, ASCC, Lebanon, TN

Elevated Concrete Floor Slabs How to Be on the Level—2:45 pm
Douglas Sarkkinen, Principal, Otak Incorporated, Battle Ground, WA

The Impact of Design Decisions on Composite Slab on Metal Deck Deflection—3:10 pm
Eldon G. Tipping, President, Structural Services Incorporated, Waxahachie, TX

2 AIA/CES LU

Event Details

All program changes will be available at the ACI Registration Desk located in PLAZA EXHIBIT HALL
★ = Guest-only event ✓ = Separate fee required TG = Task Group

Wednesday, November 11, 2015

1:30 pm – 3:30 pm

Natural Pozzolans for Sustainable Construction, Part 2 of 2—GOVERNOR'S SQUARE 12

Sponsored by ACI Committees 130, Sustainability of Concrete; 201, Durability of Concrete; and 240, Natural Pozzolans
Session Moderator: Prasad Rangaraju
Assistant Professsor
Clemson University
Clemson, SC

The session description and learning objectives for this session may be found in the Part 1 listing; see page 60.

Mitigating the Effect of Zeolites on Mixture Workability through Calcination—1:30 pm
Saamiya Seraj, Project Engineer, Sheltech (Pvt.) Limited, Bangladesh; and **Maria G. Juenger** and **Raissa D. Ferron**, University of Texas

Characterization of Bamboo Ashes for Use in Concrete—1:50 pm
Eric R. Giannini, Assistant Professor, The University of Alabama, Tuscaloosa, AL; **Charles A. Weiss,** US Army Engineer RDC; and **Sara Soleimanzadeh** and **Jay Shaddix,** The University of Alabama

Pumice and Waste Glass Dust to Reduce ASR—2:10 pm
Amanda C. Bordelon, Assistant Professor, University of Utah, Salt Lake City, UT

Agricultural Residues Ash for Concrete—2:30 pm
Feraidon Ataie, Assistant Professor, California State University Chico, Chico, CA; **Maria G. Juenger,** University of Texas; and **Kyle Austin Riding,** Kansas State University

Evaluation of Finely Ground Off-Spec Fiber Glass as a Pozzolan in Portland-Cement Concrete—2:50 pm
Prasad R. Rangaraju, Assistant Professor, Clemson University, Clemson, SC; and **Hassan Rashidian Dezfouli,** Clemson University

2 AIA/CES LU

1:30 pm – 3:30 pm

Proportioning with Ground Limestone and Mineral Filler, Part 2 of 2—GOVERNOR'S SQUARE 11

Sponsored by ACI Committees 211, Proportioning Concrete Mixtures; 237, Self-Consolidating Concrete; and ACI Subcommittee 211-N, Proportioning with Ground Limestone and Mineral Fillers
Session Moderator: Eric P. Koehler
Director of Quality
Titan America
Medley, FL

The session description and learning objectives for this session may be found in the Part 1 listing; see page 59.

Ground Calcium Carbonate Production for Concrete Application—1:30 pm
Lane G. Shaw, Director of Technology and Buisness Development, JM Huber, Atlanta, GA; and **Bobby Bergman**, Huber Carbonates

Ground Calcium Carbonate Use in Cement Based Products—1:55 pm
Pascal Gonnon, Application Senior Manager, Omya International AG, Oftringen, Switzerland

Fine Limestone Additions to Improve the Performance of High-Volume Fly Ash Concretes—2:15 pm
Dale P. Bentz, Chemical Engineer, National Institute of Standards and Technology, Gaithersburg, MD; **Jussara Tanesi,** SES Group & Associates; **Kenneth Snyder** and **Scott Jones,** National Institute of Standards and Technology; and **Ahmad A. Ardani,** FHWA Transportation

A Concrete Proportioning Method for Nonstandard Aggregates—2:40 pm
Sarwar Siddiqui, Project Engineer, Simislova, Kehnemui & Associates, Germantown, MD; **David W. Fowler**, University of Texas; and **March Racheed**, Ghafari Associates

Optimization of the Use of Ground Limestone in Concrete—3:05 pm
Pierre Claver Nkinamubanzi, Research Scientist, Civil Engineering & Urban Applications, Ottawa, ON, Canada; and **Caroline M. Talbot,** Euclid Chemical

1:30 pm – 3:30 pm

Use of FRP Reinforcement in New Concrete Columns, Part 2 of 2—GOVERNOR'S SQUARE 14

Sponsored by Joint ACI-ASCE Committee 441, Reinforced Concrete Columns
Session Moderator: Shahria Alam
Associate Professor
University of British Columbia
Kelowna, BC, Canada

The session description and learning objectives for this session may be found in the Part 1 listing; refer to page 63.

CFRP Reinforced Concrete Columns under Eccentric Loading —1:30 pm
Murat Saatcioglu, Vice Dean, University of Ottawa, Ottawa, ON, Canada; and **Kazem Sharbatdar,** Semnan University

GFRP Reinforced Concrete Columns Subjected to Simulated Earthquake Loads—1:50 pm
Shamim A. Sheikh, Professor, University of Toronto, Toronto, ON, Canada; and **Arsalan Tavassoli,** Arup Group Limited

Performance of CFRP Reinforced Concrete Columns under Reversed Cyclic Loading—2:10 pm
Murat Saatcioglu, Vice Dean, University of Ottawa, Ottawa, ON, Canada; and **Kazem Sharbatdar,** Semnan University

Feasibility of Utilizing Waste GFRP Pipes as Transverse Reinforcement for Rectangular Reinforced Concrete Columns—2:30 pm
Wael Mohammed Hassan, Assistant Professor, American University in Cairo, New Cairo, Egypt; and **Mohamad Sayed,** Housing and National Research Center (HBNRC)

Seismic Performance Evaluation of Hybrid Bridge Piers Reinforced with Fiber-Reinforced Polymer (FRP) and Steel Rebars—2:50 pm
Shahria Alam, Assistant Professor, University of British Columbia, Kelowna, BC, Canada; and **AHM Muntasir Billah,** University of British Columbia

GFRP Slices as Transverse Reinforcement for Circular Reinforced Concrete Columns—3:10 pm
Wael Mohammed Hassan, Assistant Professor, American University in Cairo, New Cairo, Egypt; and **Mohamad Sayed,** Housing and National Research Center (HBNRC)

2 AIA/CES LU

Thursday, November 12, 2015

8:00 am – 5:00 pm

✓ACI 318-14: Building Code Seminar—GOVERNOR'S SQUARE 10

7:45 am Registration; coffee and pastries available
$557 U.S. per person, ACI member registration fee
$697 U.S. per person, Nonmember registration fee
$150 U.S. per person, Full-time students (with proof of enrollment)

Speakers: Andrew Taylor
Associate
KPFF Consulting Engineers
Seattle, WA

Jerzy Z. Zemajtis
Senior Engineer
American Concrete Institute
Farmington Hills, MI

ACI has recently published the newest edition of ACI 318, "Building Code Requirements for Structural Concrete (ACI 318-14)." This edition represents the first major change in Code organization in over 40 years and has been completely reorganized from a designer's perspective. This seminar will help you get acquainted with the new organization and various technical changes to the code as quickly as possible and demonstrate how you can ensure that your design fully complies with the new code.

Session Attendance Tracking Form for The ACI Concrete Convention and Exposition

Denver, CO
November 8-12, 2015

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.

Please note that the process for obtaining a certificate has changed. See the bottom of this form for instructions.

Three PDH Codes for the selected session:

Sunday, November 8, 2015

1:00 PM - 3:00 PM (Select one session) 2 PDH

- ❑ Cement-Admixture Interaction, Part 1 of 2 (212/236/238)
- ❑ Concrete with Recycled Materials, Part 1 of 2 (555)
- ❑ Recent Development in Two-Way Slabs: Design, Analysis, Construction, and Evaluation (421)

_____ _____ _____

2:00 PM - 4:00 PM (Select one session) 2 PDH

- ❑ International Session: Development of High-Rise Buildings Around the World (ACI International Committee)

_____ _____ _____

3:30 PM - 5:30 PM (Select one session) 2 PDH

- ❑ Cement-Admixture Interaction, Part 2 of 2 (212/236/238)
- ❑ Concrete with Recycled Materials, Part 2 of 2 (555)
- ❑ Emerging Technologies in Civil Infrastructure (SDC)

_____ _____ _____

8:00 PM - 10:00 PM 2 PDH

- ❑ Hot Topic Session: Constructability of Projects Designed for 100+ Year Service Life (HTC)

Monday, November 9, 2015

8:30 AM - 10:30 AM (Select one session) 2 PDH

- ❑ ABC Connections for Seismic-Resistant Design (341)
- ❑ Chloride Limits and Thresholds for Concrete Containing Supplementary Cementitious Materials (SCMs), Part 1 of 2 (201/222)
- ❑ Entering the Industry: What I Wish I Knew (S806)
- ❑ Research in Progress, Part 1 of 2 (123)

_____ _____ _____

11:00 AM - 1:00 PM (Select one session) 2 PDH

- ❑ 50 Years of Environmental Engineering Concrete Structures at ACI: Past, Present and Future (350)
- ❑ Chloride Limits and Thresholds for Concrete Containing Supplementary Cementitious Materials (SCMs), Part 2 of 2 (201/222)
- ❑ Research in Progress, Part 2 of 2 (123)
- ❑ The Legacy of Per Fidjestøl: A Pioneer of Silica Fume Concrete, Part 1 of 2 (234)

_____ _____ _____

Monday, November 9, 2015 (cont.)

Three PDH Codes for the selected session:

1:30 PM - 3:30 PM (Select one session) 2 PDH

- ❑ Curing–Finish the Construction, Part 1 of 2 (308)
- ❑ Design and Performance of Concrete Bridges and Buildings When Interacting with Soils and Foundations, Part 1 of 2 (343/345)
- ❑ *fib* Perspective on Life Cycle Cost and Services Life Design (IAC/130/*fib*)
- ❑ The Legacy of Per Fidjestøl: A Pioneer of Silica Fume Concrete, Part 2 of 2 (234)

4:00 PM - 6:00 PM (Select one session) 2 PDH

- ❑ Carbon Dioxide Utilization in Concrete (130/236)
- ❑ Curing–Finish the Construction, Part 2 of 2 (308)
- ❑ Design and Performance of Concrete Bridges and Buildings When Interacting with Soils and Foundations, Part 2 of 2 (343/345)
- ❑ Rebuilding Colorado after the 2013 Flash-Floods (364/Rocky Mountain Chapter)

Tuesday, November 10, 2015

8:30 AM - 10:30 AM (Select one session) 2 PDH

- ❑ A Performance-Based Approach to Hot Weather Concreting, Part 1 of 2 (305)
- ❑ Contractors' Day Session: Constructability, Part 1 of 2 (Rocky Mountain Chapter)
- ❑ SCC Ready Mixed Concrete Applications (237)
- ❑ UHPC Innovative Applications and Constructional Concepts, Part 1 of 2 (236/239/544)

11:00 AM - 1:00 PM (Select one session) 2 PDH

- ❑ A Performance-Based Approach to Hot Weather Concreting, Part 2 of 2 (305)
- ❑ Formed-Surface Finish with SCC (237)
- ❑ Seismic Design of Segmental and Innovative Bridges (341)
- ❑ UHPC Innovative Applications and Constructional Concepts, Part 2 of 2 (236/239/544)

1:30 PM - 3:30 PM (Select one session) 2 PDH

- ❑ Contractors' Day Session: Constructability, Part 2 of 2 (Rocky Mountain Chapter)
- ❑ Crack Width Determination for Liquefied Natural Gas Containment Concrete Structures and Environmental Engineering Concrete Structures, Part 1 of 2 (350/376)
- ❑ Methods for Measurement and Mitigation of Early-Age Deformations, Part 1 of 2 (231/236)
- ❑ Open Topic Session, Part 1 of 2 (123)

4:00 PM - 6:00 PM (Select one session) 2 PDH

- ❑ Crack Width Determination for Liquefied Natural Gas Containment Concrete Structures and Environmental Engineering Concrete Structures, Part 2 of 2 (350/376)
- ❑ Methods for Measurement and Mitigation of Early-Age Deformations, Part 2 of 2 (231/236)
- ❑ Open Topic Session, Part 2 of 2 (123)
- ❑ Proportioning with Ground Limestone and Mineral Filler, Part 1 of 2 (211/237/211-N)

Wednesday, November 11, 2015 **Three PDH Codes for the selected session:**

8:00 AM - 12:00 PM 4 PDH
- ❑ Concrete Sustainability Forum 8 _____ _____ _____

8:30 AM - 10:30 AM (Select one session) 2 PDH _____ _____ _____
- ❑ Cementitious Materials for Nuclear Waste Storage and Disposal, Part 1 of 2 (201/236/349)
- ❑ Natural Pozzolans for Sustainable Construction, Part 1 of 2 (130/201/240)
- ❑ SHM Real-Life Applications, Part 1 of 2 (444)

11:00 AM - 1:00 PM (Select one session) 2 PDH
- ❑ Cementitious Materials for Nuclear Waste Storage and Disposal, Part 2 of 2 (201/236/349)
- ❑ Deflections and Construction Tolerances: The Good, the Bad, and the Ugly, Part 1 of 2 (117/435) _____ _____ _____
- ❑ SHM Real-Life Applications, Part 2 of 2 (444)
- ❑ Use of FRP Reinforcement in New Concrete Columns, Part 1 of 2 (441)

1:30 PM - 3:30 PM (Select one session) 2 PDH
- ❑ Deflections and Construction Tolerances: The Good, the Bad, and the Ugly, Part 2 of 2 (117/435)
- ❑ Natural Pozzolans for Sustainable Construction, Part 2 of 2 (130/201/240) _____ _____ _____
- ❑ Proportioning with Ground Limestone and Mineral Filler, Part 2 of 2 (211/237/211-N)
- ❑ Use of FRP Reinforcement in New Concrete Columns, Part 2 of 2 (441)

Daily PDH Totals:

Total completed on Sunday, 11/8/15 _____
Total completed on Monday, 11/9/15_____
Total completed on Tuesday, 11/10/15_____
Total completed on Wednesday, 11/11/15 _____

INSTRUCTIONS

For attendance certificates:
1. Visit ACIUniversity.com and sign in (or create an ACI username)
2. Under the *Redeem Code* tab, type **DENVER** in the Access Code field and click Submit.
3. Under the *My Courses* tab, locate the **2015 Fall Convention Certificates – Denver** folder. Open the folder and then open the correct day and time slot folder of the session that you attended.
4. Launch the session and enter your codes.
5. Retrieve your certificate from the *Certificates* tab in the **2015 Fall Convention Certificates – Denver** folder.

If you have any questions, please contact us at: elearning@concrete.org

Spring 2016 | Milwaukee
The Concrete Convention
and Exposition

The Concrete Convention
and Exposition


Photo courtesy VISIT MILWAUKEE


Photo courtesy MJZ Design


Photo courtesy VISIT MILWAUKEE

Save the Date

April 17-21, 2016

Hyatt & Wisconsin Center | Milwaukee, WI

April 17-21, Milwaukee, WI
Milwaukee
Concrete Convention and Exhibition
aci

Be sure to visit the Milwaukee Information Desk in the exhibit hall

Thank you for attending

The Concrete Convention
and Exposition

Save the Date for Future Conventions

April 17-21, 2016
Hyatt & Wisconsin Center
Milwaukee, WI

October 23-27, 2016
Philadelphia Marriott
Philadelphia, PA

March 26-30, 2017
Marriott Detroit at the Renaissance Center
Detroit, MI

American Concrete Institute

38800 Country Club Drive | Farmington Hills, MI 48331
Phone: +1.248.848.3700 | Fax: +1.248.848.3701 | www.concrete.org