Fall 2014 Convention Program Book

October 26-30, 2014

Washington Hilton • Washington, DC

American Concrete Institute
Always advancing

Download the Convention App!

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

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

ACI on Social Media

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

Table of Contents
ACI Fall 2014 Convention

October 26-30, 2014
Washington, DC

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ACI President's Welcome

Welcome to Washington, DC, and the ACI Fall 2014 Convention!

ACI's conventions provide a forum where individuals from across the globe can come together to share ideas and discover innovative ways to use concrete. The ACI Convention offers educational opportunities for personal betterment, committee opportunities for technical advancement, and networking opportunities for professional enrichment. The opportunities are numerous, with over 300 committee meetings, 50+ technical sessions, two exciting student competitions, and numerous networking events, culminating with the Concrete Mixer on Tuesday night.

I would like to thank the ACI staff and the Maryland, National Capital, and Virginia chapters for their dedication in planning this convention. The effort that has been put forth in developing a memorable and productive convention program is extraordinary. If you have a good time this week, be sure to stop by the host chapter desk to let them know.

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

Kind regards,

Bill

William E. Rushing Jr.
ACI President

ACI Sustaining Members

ACS Manufacturing Corporation

Advanced Construction Technology Services

American Society of Concrete Contractors

Ashford Formula

Ash Grove Cement Company

Baker Concrete Construction, Inc.

Barrier-1 Inc.

BASF Corporation

BCS

Buzzi Unicem USA

Cantera Concrete Company

CECO Concrete Construction

CHRYSO, Inc.

Concrete Reinforcing Steel Institute

CONSTRUCTION FORMS

CTLGroup

Dayton Superior

Ductilcrete

The Euclid Chemical Co.

Fibercon International, Inc.

Future Tech Consultants

W.R. Grace & Co.

Headwaters Resources, Inc.

Holcim (US) Inc.

Keystone Structural Concrete, LLC

ACI Sustaining Members

Kleinfelder

Kretetek

Lafarge North America

Lithko Contracting, Inc.

Meadow Burke

Metromont Corporation

MTL

Multiquip Inc

Municipal Testing

North S.Tarr Concrete Consulting PC

Oztec Industries, Inc.

Pacific Structures

Penetron International Ltd.

PGESCo

Portland Cement Association

Precast/Prestressed Concrete Institute

Sika Corp.

STRUCTURAL

Structural Services, Inc.

Tekna Chem SRL

Triad Engineering, Inc.

TWC Concrete Services

W. R. Meadows, Inc.

Wacker Neuson

Convention Sponsors

Sponsors are listed as of 9/23/14

Convention Host Sponsors
Maryland Chapter – ACI
National Capital Chapter – ACI
Virginia Chapter – ACI

The White House
Clark Concrete Construction
Nemetschek Scia

The U.S. Capitol
Baker Concrete Construction
Miller & Long Concrete

The Supreme Court
Aggregate Industries
ASTM International
BASF Corporation
Cagley & Associates, Inc.
The Euclid Chemical Company
Facchina Construction
Freyssinet, Inc.
Grace Construction Products
Schuster Concrete Construction
Structural Group
Titan America
Vulcan Materials Group

The Pentagon
BARR Concrete
Wiss, Janney, Elstner Associates, Inc.

Annapolis State House
Bentley Systems, Inc.
Carolinas Chapter – ACI
Eastern Pennsylvania & Delaware Chapter – ACI
FMC & Associates, LLC
Form Services, Inc.
Lafarge
MEVA Formwork
Mid-South Chapter – ACI
New Jersey Chapter – ACI
Northern California & Western Nevada Chapter – ACI

Convention Sponsors cont.

Annapolis State House (cont.)
Patuxent Engineering Group
Pittsburgh Area Chapter – ACI
Sharda and Gajnan Sabnis
VIMCO, Inc.

The Lincoln Memorial
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Arkansas Chapter – ACI
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Georgia Chapter – ACI
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Kansas Chapter – ACI
Las Vegas Chapter – ACI
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Northeast Texas Chapter – ACI
Olson Engineering, Inc.
Prime AE Group, Inc.
Rockville Fuel & Feed Co. Inc.
Rocky Mountain Chapter – ACI
South Texas Chapter – ACI
Southern California Chapter – ACI

The Jefferson Memorial
Maryland Ready Mix Concrete Association
San Antonio Chapter – ACI
Spectrum Screen Printing, Inc.
Wilson Technologies, LLC

Lanyards
ADAPT Software
S-FRAME Software, Inc.

ACI Washington, DC, Chapter Convention Committee

Organizing Committee Chairs
Clyde Ellis, Structural Group
Tom Evans, Maryland Ready Mix Concrete Association
William Gaspar, Moseley Architects

Treasurer
Yolande Rivers, Vulcan Materials

Guest Program
Brian Young, Vulcan Materials

Exhibits
Larry Olson, Olson Engineering

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Jussura Tanesi, Global Consulting, Inc.
Anthony DiMaio, Superior Concrete
Nate Schwarz, Froehling & Robertson Inc.
Gail Kelley, Design Work

Publicity
Chair: Tony Thompson, Vulcan Materials
Mindy Green, Vulcan Materials

Technical Program
Tom Evans, Maryland Ready Mix Concrete Association

Student Program
Chair: Tom Ouska, Manganaro Midatlantic
Dean Plank, Specialized Engineering
Claudia Marin, Howard University
Pedro Silva, George Washington University

Social Events
Chair: Yvonne Nelson, Facchina
John Gardner, North Star Foundations
Robert Doody, Schuster Concrete

Fundraising
Chair: Charlie O'Reilly, Clark Concrete
Ed Kluckowski, Freyssinet

Committee Volunteers
William Rafferty
Girum Urgessa, George Mason University
Isaac Perkins, Tindal Corp.
Marie Derby

William Gaspar, Clyde Ellis, and Tom Evans

General Information

ACI Registration—Columbia 5-8

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

*Location will be in **Columbia West** on Wednesday.

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 ACI Fall 2014 Convention 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 Fall"** on your Apple or Android device.

Schedule Changes

Cancellations, additions, and location changes to the convention schedule will be posted daily on a monitor in the exhibit area at the Washington Hilton, 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 go to the nearest house phone to contact the operator by dialing "60".

Photographs/Videos

ACI will take photographs and video during the ACI Fall 2014 Convention and reproduce them in ACI educational, news, or promotional material—whether in print, electronic, or other media, including the ACI website. By participating in the ACI Fall 2014 Convention, you grant ACI the right to use your name, photograph, and biography for such purposes. Please note: Photographing, audio recording, and videotaping a presentation or speaker is prohibited without the presenter's prior written consent.

General Information

Exhibit Hall Refreshments—Columbia West & 5-8

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
Monday - Tuesday	Cookies/Brownies	3:30 pm - (while supplies last)

Lunch Concessions are available for purchase in the exhibit hall during the following hours:

Sunday & Monday	11:00 am - 2:00 pm

Alcohol Policy

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

ACI Bookstore—Columbia West

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

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

NEW ACI Pavilion—Columbia West

ACI has much to offer convention attendees in addition to convention events, and now everything is available in one central location! The ACI Pavilion will feature resources to Connect and Advance attendees, such as the complimentary Cyber Café, wireless hotspot, Meeting Spot, and Career Center. It is also a place to Educate, Excel, Learn and Advance, as attendees gain knowledge about ACI services such as 318-14 Learning Center, 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 318-14 Learning Center—With the rollout of the updated 318-14 Building Code, ACI staff and engineers will be on hand to answer questions and help you better understand how the updated code will benefit you professionally and the rationale behind the improvements.

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.

General Information

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.

Career Center—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.

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

Excellence in Concrete Awards—In 2015, ACI will be celebrating innovation and excellence throughout the global concrete design and construction community. Stop by to find out how your chapter can be a part of this event. Staff will be available to answer questions, help you better understand the program, and how to submit your entries.

Meeting Spot—Convention attendees are encouraged to visit the meeting spot for coffee or lunch 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.

Wireless Hot-Spot—The exhibit hall will have several wireless hot spots, including the ACI Pavilion. Pull up a seat, get connected, and take advantage of this complimentary service!

Connections made possible in part by WJE Engineers Architects Materials Scientists Wiss, Janney, Elstner Associates, Inc.

Membership Information—Columbia West

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

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.concrete.org/Events/Conventions/CurrentConvention/SessionHandouts.aspx** to download or print a copy of the handouts for the sessions you plan to attend. If you do not find a handout for a particular session, please contact the speaker for more information.

Local Information—Columbia West

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

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

Washington Hilton Restaurants

McClellan's Sports Bar

Offering a wide variety of draft and bottle beers, favorite cocktails, and great food, McClellan's features 15 flat-screen televisions and comfortable seating. McClellan's is open 11:00 am - 1:00 am daily.

General Information

TDL Bar
Open from 5:00 pm - 12:00 am daily, this bar in the Washington Hilton lobby is the ideal spot to meet up and unwind after a long day. An extensive drink menu is complimented with a selection of locally inspired dishes and small plates.

The Coffee Bean & Tea Leaf
This is the perfect place to grab a coffee, tea, a pastry, or a sandwich on the go, or relax in a cozy setting with complimentary WiFi and TVs. This outlet is open daily 5:30 am - 6:00 pm.

The District Line Restaurant
This casual restaurant features a variety of regionally inspired comfort foods and seasonal dishes and is open for breakfast and lunch daily, 7:00 am - 2:30 pm.

Room Service
Room service is available at the Washington Hilton 6:00 am - 11:00 pm, daily.

Transportation
The Washington Hilton is approximately 7 miles from Ronald Reagan Washington National Airport, 26 miles from Dulles International Airport, and 33 miles from Baltimore/Washington International Airport.

Rental Cars
Hertz is the official car rental agency for the ACI Convention. Receive discounts on upgrades, weekly rentals, and weekend rentals. To make advance 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 offices at the three major airports.

Taxis
There are several taxi services available in Washington, DC, to help get you to and from the airport, as well as the many attractions, restaurants, and other destinations in the area.

Metro Rail and Bus System
Washington, DC's, Metro system is a great way to get to hundreds of popular locations and attractions in and around Washington, DC. With over 700,000 trips every weekday, the rail system provides easy access to popular attractions including the National Mall, National Zoo, White House, Washington Nationals Park, and much more. The system also provides access to other area transit options, including a station at Ronald Reagan Washington National Airport and Union Station (with Amtrak, MARC, and VRE train service), and MetroBus express routes to Dulles International Airport and Baltimore/Washington International Airport. Visit **www.dctransitguide.com** for further details.

Parking
Self-parking is available at the Washington Hilton for $36 US per day. Valet parking is also available for $46 US 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.

General Information

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: ACI does not track and cannot provide documentation confirming attendee participation or attendance at any ACI session held during the convention, unless otherwise noted.

Speaker Ready Room—Columbia West

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.

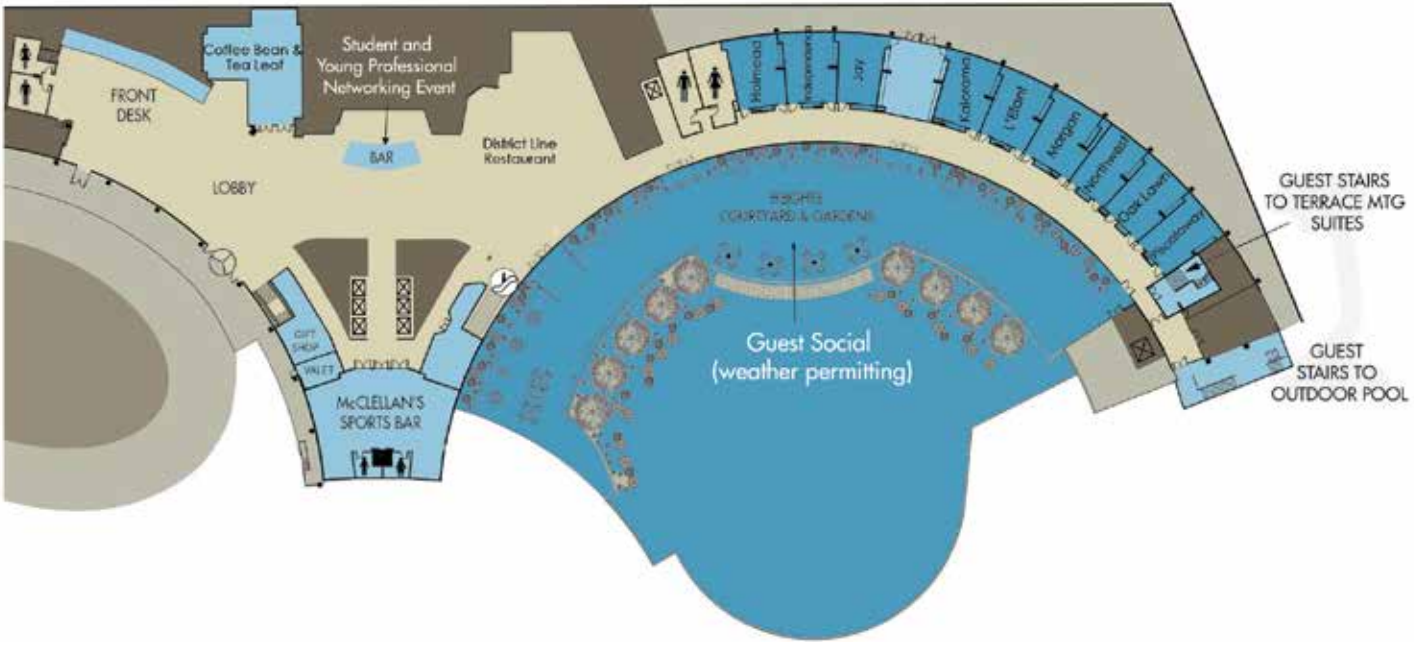
ACI Spring 2015 Convention—Columbia West

Mark your calendars for the ACI Spring 2015 Convention in Kansas City, MO, April 12-15, 2015, at the Marriot and Kansas City Convention Center. Stop by the Kansas City Chapter Convention Committee Desk Saturday through Tuesday to learn more about the convention!

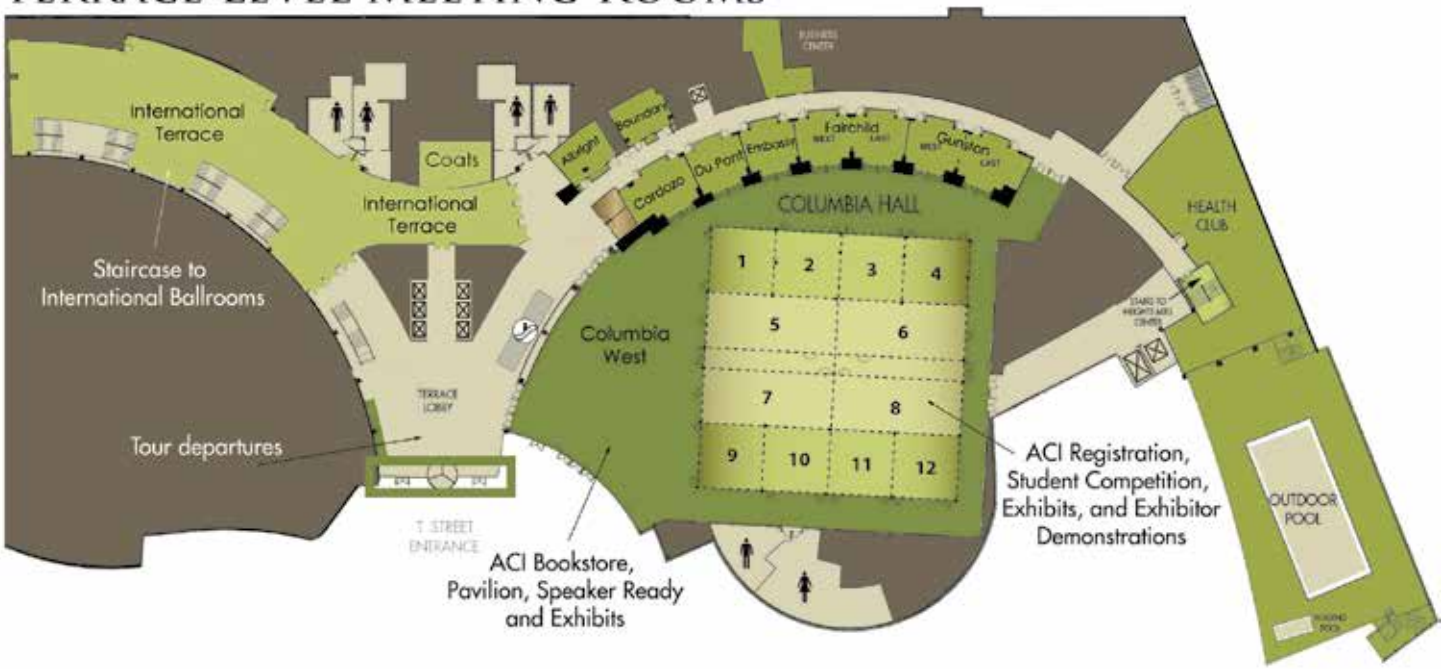
Where's That Meeting Room?

Room Name	Location
ALBRIGHT	Terrace Level
CABINET	Concourse Level
CARDOZO	Terrace Level
COLUMBIA 1-12	Terrace Level
COLUMBIA WEST	Terrace Level
DU PONT	Terrace Level
EMBASSY	Terrace Level
FAIRCHILD EAST	Terrace Level
FAIRCHILD WEST	Terrace Level
GEORGETOWN EAST	Concourse Level
GEORGETOWN WEST	Concourse Level
GUNSTON EAST	Terrace Level
GUNSTON WEST	Terrace Level
HEIGHTS COURTYARD	Lobby Level
HOLMEAD	Lobby Level
INDEPENDENCE	Lobby Level
INTERNATIONAL BALLROOMS	Concourse Level
INTERNATIONAL TERRACES	Terrace Level
JAY	Lobby Level
JEFFERSON EAST	Concourse Level
JEFFERSON WEST	Concourse Level
L'ENFANT	Lobby Level
LINCOLN EAST	Concourse Level
LINCOLN WEST	Concourse Level
KALORAMA	Lobby Level
MONROE	Concourse Level
MORGAN	Lobby Level
NORTHWEST	Lobby Level
OAK LAWN	Lobby Level
PISCATAWAY	Lobby Level

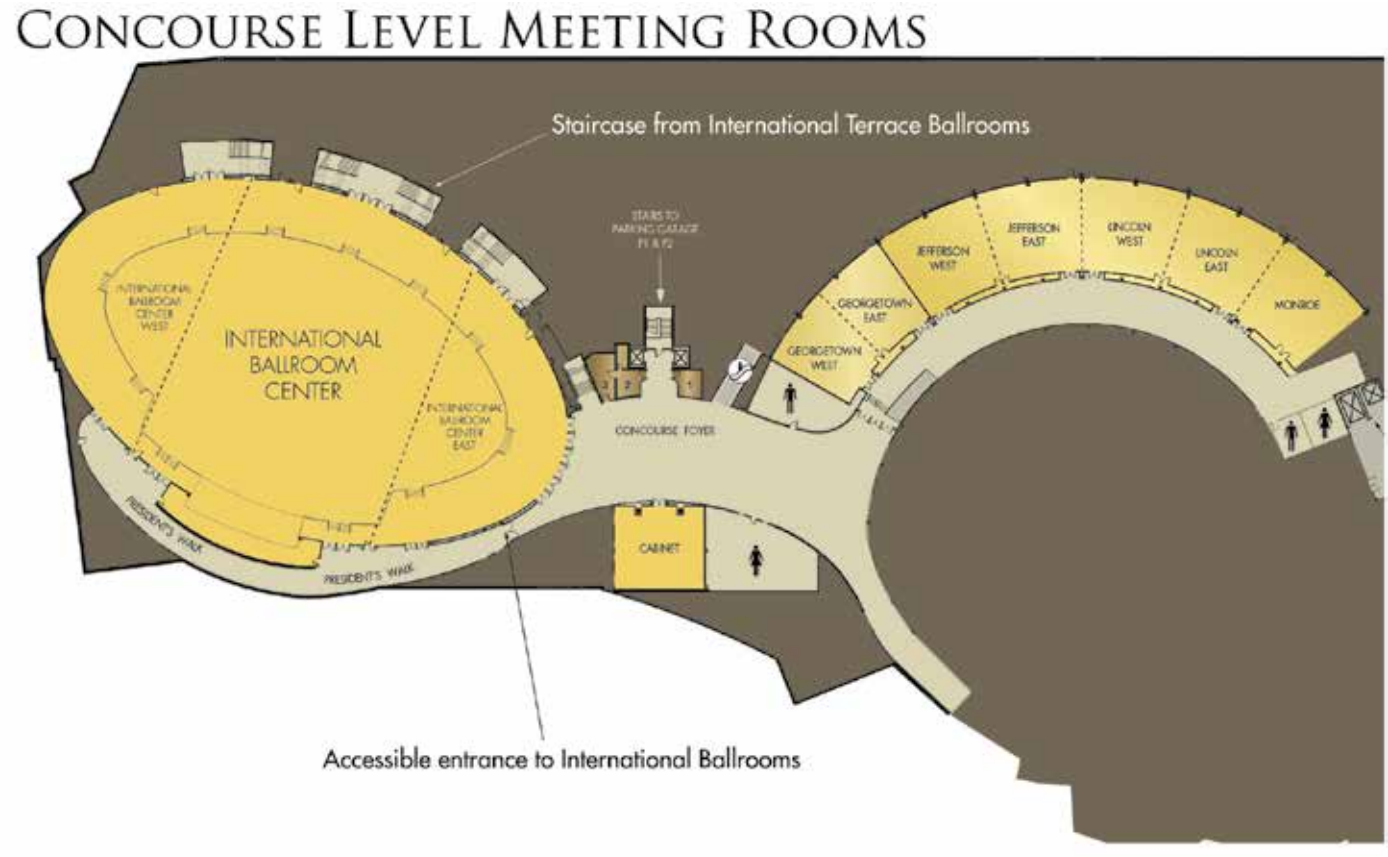
Lobby Level Meeting Rooms



Terrace Level Meeting Rooms



Concourse Level Meeting Rooms



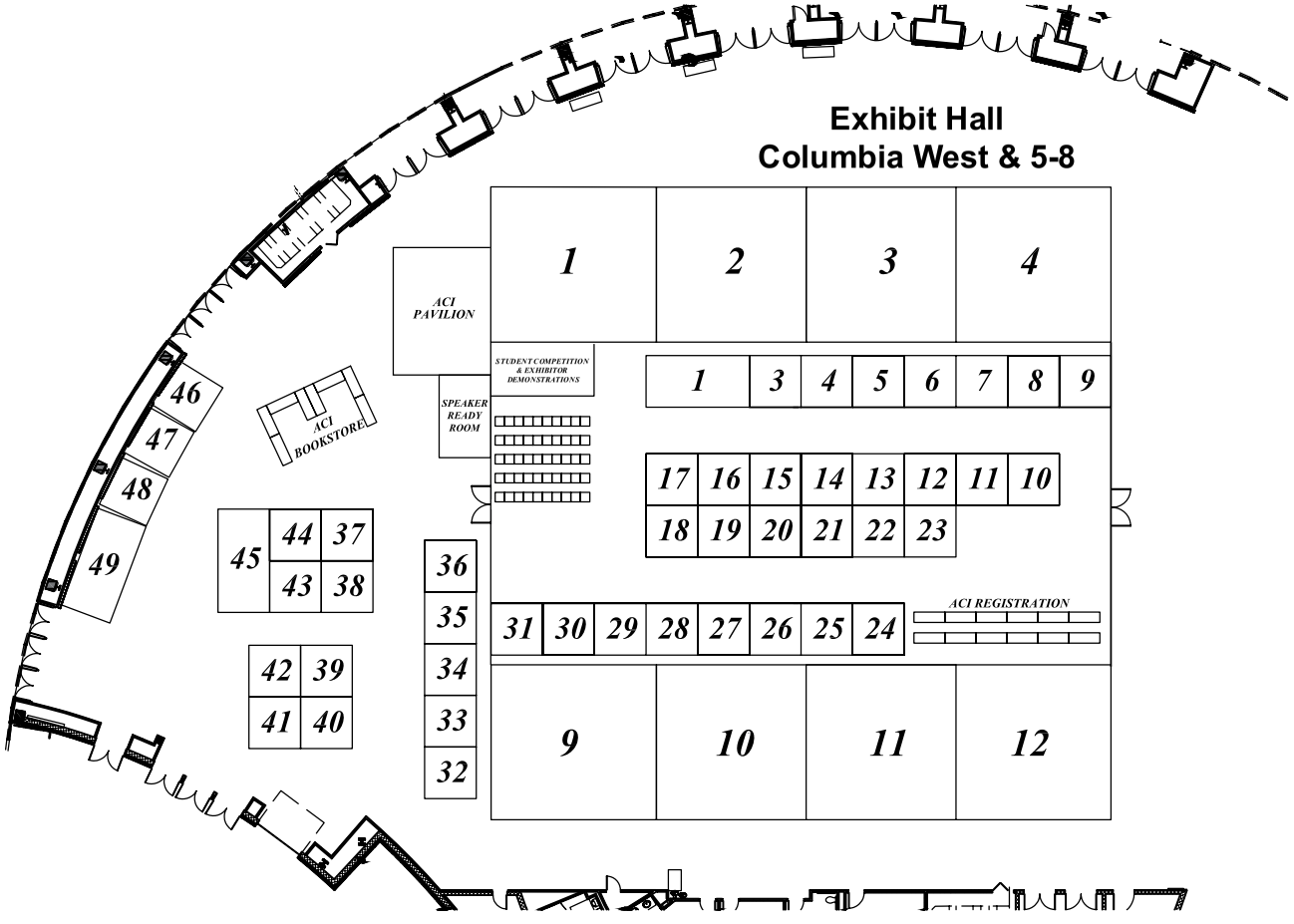


Exhibit Hall
Columbia West & 5-8
ACI PAVILION
STUDENT COMPETITION & EXHIBITOR DEMONSTRATIONS
SPEAKER READY ROOM
ACI BOOKSTORE
ACI REGISTRATION
1
2
3
4
1 3 4 5 6 7 8 9
17 16 15 14 13 12 11 10
18 19 20 21 22 23
31 30 29 28 27 26 25 24
9
10
11
12
46
47
48
49
45
44 37
43 38
36
35
34
33
32
42 39
41 40

Exhibitors

Exhibitors are listed as of 9/10/14.

Exhibits **Columbia West & 5-8**

ACI and the National Capital, Maryland, and Virginia Chapters wish to thank all exhibitors for their participation in and support of the ACI Fall 2014 Convention.

Exhibit Hours

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

ADAPT Corporation **Booth #20**

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 post-tensioning software and expertise. The ADAPT exhibit will showcase the ADAPT-Builder 2014 software—a fully integrated 3-D finite element modeling, analysis, and design approach to concrete buildings. For additional information, visit **www.adaptsoft.com.**

Adhesive Systems Technology **Booth #33**

Adhesive Systems Technology is a manufacturer of equipment used for doweling, injection, saw, and expansion joint sealing used for applications of epoxies, urethanes, polyureas, silicones, and other single- and two-part fluid materials. For additional information, visit **www.ast-corp.net.**

Aggregate Industries **Booth #3**

Aggregate Industries is a leading supplier of ready mixed concrete, aggregates, and asphalt. For additional information, visit **www.aggregate-us.com.**

ASTM International **Booth #6**

Over 12,000 ASTM standards operate globally. Defined and set by ASTM International, they improve the lives of millions every day. Combined with their 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. Working across borders, disciplines, and industries, they harness the expertise of over 30,000 members to create consensus and improve performance in manufacturing and materials, products and processes, and systems and services. Understanding commercial needs and consumer priorities, they touch every part of everyday life—helping the world work well. For additional information, visit **www.astm.org.**

Axieom LLC **Booth #40**

Axieom LLC provides strategic guidance to owners and managers of reinforced concrete and masonry structures regarding corrosion and associated durability issues, including how to build, maintain, and rehabilitate facilities to achieve performance and financial goals. The company offers expert consulting services in the fields of corrosion science, condition evaluation, repair design, cathodic protection, and asset management. Axieom's staff prides itself in understanding the unique needs of owners and developing creative and cost-effective solutions for long-term durability. For additional information, visit **www.axieom.com**.

BakerRisk **Booth #29**

BakerRisk, founded in 1984, provides engineering consulting services in protective structures design, blast effects analysis, risk management, explosive safety, weapon effects, incident investigations, training, research, and testing programs. Protective structures services include dynamic analysis and design to protect against airblast, fragment, impact, high pressure, and other impulsive and extreme loading. Visit **www.bakerrisk.com** to learn more.

BASF Corporation **Booth #37**

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**.

Bentley Systems, Inc. **Table #2**

Bentley is the global leader dedicated to providing architects, engineers, constructors, and owner-operators with comprehensive software solutions for sustaining infrastructure. Founded in 1984, Bentley has more than 3000 colleagues in 50 countries; $600 million in annual revenues; and since 2005, has invested more than $1 billion in research, development, and acquisitions. Visit **www.bentley.com** to learn more.

Buildex/Redhead/Ramset **Booth #30**

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**.

Burgess Pigment Company **Booth #36**

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 #21**

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 companies' 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**.

Carolina Stalite Company **Booth #7**

Carolina Stalite Company (Stalite) manufactures high-performance rotary kiln expanded slate lightweight aggregate for use in structural concrete and other applications. Concrete produced with Stalite lightweight aggregate offers design flexibility and substantial cost savings by providing less dead load, longer spans, better fire ratings, thinner sections, smaller-sized structural members, less reinforcing steel, and lower foundation costs. Stalite also provides internal curing, allowing more complete hydration, resulting in reduced autogenous shrinkage, reduced early-age cracking, decreased permeability, and increased service life. For more information, visit **www.stalite.com**.

Cervenka Consulting s.r.o. **Booth #43**

Cervenka Consulting s.r.o. specializes in numerical analysis of concrete structures and provides consulting and software in the field. Company know-how is based on many years of experience in the field of concrete mechanics and computational methods. It is an internationally recognized expert in the field of mechanics of concrete structures. The main software product offerings include: Atena, software for nonlinear analysis of reinforced concrete and concrete structures; SARA, structural analysis and reliability assessment tool; and AmQuake, software for design of masonry buildings according to Eurocode 6 and 8. Learn more at **www.cervenka.cz.**

Clark Concrete Contractors, LLC **Booth #49**

With more than $4 billion in annual revenue, Clark Construction Group, LLC, is one of the nation's most experienced and respected providers of general building and civil construction services. Headquartered in Bethesda, MD, the company has offices strategically located to serve clients throughout the United States. Working in concert with its self-perform concrete division, Clark Concrete Contractors, LLC, Clark has established a diverse portfolio of work and developed a reputation for delivering some of the most technically sophisticated projects in the country, including intricate museum spaces, complex government headquarters, massive sports facilities, and more. The company's robust self-perform capabilities make Clark a diversified contractor able to meet the needs of public and private clients on every front. For additional information, visit **www.clarkconstruction.com.**

Composite Rebar Technologies **Booth #9**

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.hollowbar.com.**

Decon USA Inc. **Booth #46**

Decon® is presenting Studrails® and Jordahl Anchor Channels. Decon manufactures the 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 #41**

ELE International is the world leader in concrete and soil testing equipment. ELE specializes in working with customers to meet their needs. Customer care is what sets ELE apart from the competition. For more information, visit **www.ele.com/usa.**

ERICO, Inc. **Booth #47**

ERICO, Inc., is a leading global manufacturer and marketer of superior engineered electrical and fastening products for niche electrical, mechanical, and concrete applications. The LENTON-Engineering system for concrete reinforcement applications will be featured at this convention. Learn more at **www.erico.com.**

The Euclid Chemical Company **Booth #25**

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.

FibrWrap **Booth #32**

Fibrwrap Construction, Inc., is a full-service structural renovation company specializing in the design and application of advanced composite systems. Fibrwrap® enhances the structural capacity of existing structural elements that require additional strengthening, rehabilitation, and repair, including seismic retrofit, pipe rehabilitation, structural preservation, comprehensive force protection, blast mitigation, and corrosion-related repair. For more information, visit **www.fibrwrap.com**.

Freyssinet, Inc. **Booth #14**

Freyssinet, Inc., offers value-added products and services to the civil engineering industry, including multi-strand and thread bar post-tensioning systems, stay-cable systems, suspension bridge cables and hangers, expansion joints, bearings, structural dampers and seismic devices, structural repair/strengthening, barrier cables, monitoring systems and services, and heavy lifting/moving. Visit **www.freyssinetusa.com** to learn more.

Germann Instruments, Inc. **Booth #1**

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

Grace Construction Products **Booth #48**

Headquartered in Cambridge, MA, Grace Construction Products is a worldwide leading manufacturer of concrete admixtures and fibers; liquid pigments for colored concrete; cement processing additives; concrete masonry products; air and vapor barriers; roofing underlayments; self-adhered window, door, and deck flashings; structural waterproofing systems; and fire protection products. Visit **https://grace.com/construction/en-us** to learn more.

Headed Reinforcement Corp. (HRC) **Booth #31**

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

Hilti Inc. **Table #1**

Hilti provides leading-edge technology to the global construction industry with products, systems, and services that offer the construction professional innovative solutions with outstanding added value. Two-thirds of the employees work directly for the customer in sales organizations and in engineering, which means a total of more than 200,000 customer contacts every day. Hilti excels through outstanding innovation, top quality, direct customer relations, and effective marketing. Visit **www.hilti.com** to learn more.

Hoskin Scientific Limited **Booth #42**

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

Hughes Brothers, Inc. **Booth #35**

Hughes Brothers manufactures fiber-reinforced polymer (FRP) reinforcing 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.**

Humboldt Mfg. Co. **Booth #16**

Humboldt is a leading manufacturer and provider of material testing equipment for concrete, cement, aggregate, asphalt, and soil. Humboldt is known worldwide for their vast selection of concrete testing equipment, as well as their nuclear and nuclear-free moisture/density gauges and extensive line of geotechnical testing equipment. They carry over 5000 products in their catalog and for sale on their website. For concrete testing, they carry a complete line of testing equipment—from slump cones to compression machines and nondestructive testing equipment to moisture testing equipment for cured slabs. Most items are in stock and ready to ship. Visit their website at **http://www.humboldtmfg.com** or call +1.800.544.7220 to learn more.

Kryton International Inc. **Booth #22**

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.**

Miller & Long Concrete Construction **Booth #34**

Miller & Long Infinity Systems, L.L.C. (MLIS), is a member of the Miller & Long family of companies. MLIS, in conjunction with their alliance partner (Infinity Structures from Alpharetta, GA), provides a state-of-the-art hybrid building frame system ideal for commercial residential structures. The Infinity Structural System consists of the Epicore MSR Composite Floor System supported by pre-panelized load-bearing metal stud walls. It is ideal for mid-rise residential structures such as apartments, hotels, condominiums, dormitories, barracks, and retirement/assisted living environments. Some of the advantages of the system include reduced building height, lower construction costs, faster construction, a U.L.-rated floor slab, high sound transmission test (STC) ratings, mold and mildew resistance, no termite issues, and no need to design around columns within the units. Please stop by Booth 34 to find out more about why over a thousand structures have been built using this system in the past 28 years. For more information, visit **www.millerandlong.com.**

Myers Associates, Inc. **Booth #8**

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.**

Nemetschek Scia **Booth #44**

Easily plug concrete design into your BIM workflow. Scia Engineer™ & Earthquake Concrete tools, better known as ECtools®, combine to provide a proven solution for the design of reinforced concrete structures. Design to the provisions of ACI 318-11, ASCE/SEI 7-10, FEMA 356, as well as EN 1998 with an emphasis on the lateral design requirements, while also linking to the BIM process with certified support for IFC2x3 and bidirectional links to Revit. The result is a practical and proven workflow with results that are fully verified against actual buildings. For more information, visit **www.nemetschek-scia.com.**

Nitto Construction **Booth #11**

Nitto Construction Co., Ltd., is the manufacturer of nondestructive concrete tester CTS-02. The CTS-02 estimates concrete strength with 85% or higher accuracy for a second, just hitting the surface of concrete. You can also find the delamination and deterioration of the concrete at the same time of strength measurement. Not like a conventional rebound hammer, the CTS-02 can measure high-strength (high-compressive) concrete as accurate as normal concrete. The measurement data is saved in the tester and can be transferred to your pc via USB cable for the data analysis. To learn more, visit **www.concretetester.com.**

Olson Engineering, Inc. **Booth #28**

Olson Engineering, Inc., 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. Their staff includes civil, mechanical, electrical, and geophysical engineers who are involved in consulting, research, and instruments development. Olson Instruments manufactures ultrasonic, sonic, and seismic instruments for pavements, foundations, and structures, as well as seismic surface wave, crosshole, downhole, reflection, and refraction tests. Visit **www.olsonengineering.com** to learn more.

PERI Formwork Systems **Booth #5**

PERI is one of the world's largest manufacturers and suppliers of formwork, shoring, and scaffolding. PERI also offers its customers engineering, planning, special software, rental service, and logistics support. For more information, visit **www.peri-usa.com.**

Posner Industries **Booth #4**

Posner Industries opened its doors in 1960. Posner has over 50 years of experience in distribution of contractor supplies. Currently, there are six full-service branches located throughout Maryland and Virginia. Posner Industries contributed its persistent growth to their new and returning customer base. Posner Industries is a one-stop shop for all steel, tool, and fastener supplies. For more information, visit **www.posners.com.**

Powers Fasteners, a Stanley Black & Decker Company **Booth #13**

Powers Fasteners has been a worldwide pioneer in the fastening industry since 1921 and today is the leading supplier of concrete and masonry anchors and fastening systems in North America. Powers has extensive engineering and manufacturing expertise in several product groups, including mechanical anchors, adhesive anchoring systems, and powered forced-entry systems such as powder-actuated and gas fastening systems. For more information, visit **www.powers.com.**

Premier Construction Products Group **Booth #26**

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.**

Proceq USA, Inc. **Booth #45**

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 #17**

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.

SAS Stressteel, Inc. **Booth #10**

SAS Stressteel, Inc., provides innovative products and solutions for the construction industry. SAS hot-rolled thread bar sizes from No. 6 to No. 24 in Grades 80 and 97 and 150/160 ksi are used in a wide range of applications from rock and soil anchors to multi-bar caissons and ultra-high-strength reinforcing bars for concrete structures. Visit **www.stressteel.com** for more information.

Schuster Concrete Construction **Booth #27**

DGS Construction, Inc., operating under the trade name of Schuster Concrete Construction, is a concrete construction contractor serving the Mid-Atlantic region. The company's founder has managed continual growth in work force and projects since operations began in 1974. The ready mix division was added in 1987 to enable the company to have full control of quality concrete products and timely deliveries to commercial and residential customers. Shuster's experience includes commercial, industrial, environmental, educational, and multi-residential concrete construction. Structures range from below-ground tanks to high-rise structures to football-field-sized warehouses. Schuster operates equipment including tower cranes, placing booms, boom pumps, laser guide slab finishing machines, and on-site portable concrete batch plants. For more information, visit **www.schusterconcrete.com.**

S-FRAME Software, Inc. **Booth #19**

Since 1981, structural engineers worldwide choose to use S-FRAME® Analysis, S-CONCRETE® (reinforced concrete [RC] beam, column, wall section design and detailing), S-LINE® (RC continuous beam analysis, design and detailing) on simple as well as some of the most complex projects in terms of geometry, material models, and loading conditions because of the products' depth of capabilities, ease-of-use, accuracy, and detailed design reports. This year S-FRAME introduced S-FOUNDATION for the analysis and design of foundations. Learn more at **www.s-frame.com.**

Sika Corporation **Booth #23**

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 #38**

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**.

STRUCTURAL TECHNOLOGIES **Booth #15**

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.**

Vector Corrosion Technologies **Booth #18**

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 #39**

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 #12**

For over 40 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 80 countries, Xypex's unique Crystalline Technology provides confidence and peace-of-mind to architects, engineers, contractors, and concrete producers. To learn more, visit **www.xypex.com**.

Zircon Corporation **Booth #24**

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 (NDI). To learn more, visit **www.zircon.com**.

Exhibitor Demonstration Schedule

Exhibitor Demonstrations will take place in COLUMBIA 5-8.

Monday, October 27, 2014

Time	Company/Organization	Presentation/Demo Title
9:00 a.m. – 9:30 a.m.		
9:45 a.m. – 10:15 a.m.	Hilti Inc.	Technology Advances in Adhesive Anchor Installation
10:30 a.m. – 11:00 a.m.	ASTM International	Faster Time to Knowledge with New ASTM Tools
11:15 a.m. – 11:45 a.m.	SAS Stressteel	High-Strength Concrete Reinforcement Systems
12:00 p.m. – 12:30 p.m.	QuakeWrap, Inc.	New FRP Products for Repair of Columns, Pipes, and Culverts
12:45 p.m. – 1:15 p.m.		
1:30 p.m. – 2:00 p.m.	Nitto Construction	New Nondestructive Testing Method for Estimating Concrete Strength with Greater Accuracy and Speed
2:00 p.m. – 2:15 p.m.	Nemetschek Scia	Beer Garden Welcome
2:30 p.m. – 3:00 p.m.	S-FRAME Software	Integrated Concrete Design in S-FRAME Analysis, A Structural Analysis and Design Solution Platform
3:15 p.m. – 3:30 p.m.	Nemetschek Scia	Beer Garden Welcome
3:45 p.m. – 4:15 p.m.	Powers Fasteners	Powers Pure 110+: Post-Installed Adhesive Anchoring to Meet ACI 318-11
4:30 p.m. – 5:00 p.m.		

Demonstration schedule listed as of 9/22/2014. 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.

Exhibitor Demonstrations will take place in COLUMBIA 5-8.

Tuesday, October 28, 2014

Time	Company/Organization	Presentation/Demo Title
9:00 a.m. – 9:30 a.m.	Bentley Systems	Introducing ProConcrete-Revolutionizing CIP Concrete and Reinforcement Modeling, Detailing, Fabrication, and Placing
9:45 a.m. – 10:15 a.m.	Vector Corrosion Technologies, Inc.	Anodic Ring (Halo Effect)
10:30 a.m. – 11:00 a.m.	Zircon Corporation	
11:15 a.m. – 11:45 a.m.	BakerRisk	Shock Tube Testing to Evaluate Performance of Masonry and Concrete Elements Subjected to Blast Loading
12:00 p.m. – 12:30 p.m.	Humboldt Mfg. Co.	New Concrete Crack Monitor Solution
12:45 p.m. – 1:15 p.m.		
1:30 p.m. – 2:00 p.m.		
2:15 p.m. – 2:45 p.m.	ADAPT Corporation	ADAPT-Builder: 3-D BIM Solution for Single-Model FEM Design of Concrete Buildings
2:45 p.m. – 3:15 p.m.	BASF Construction Chemicals	New Innovative Admixture for Durable Concrete: A Replacement for Air-Entrained Concrete
4:00 p.m. – 4:30 p.m.	Olson Engineering, Inc.	Sonic Instruments for Nondestructive Evaluation of Concrete Structures, Pavements, and Foundations
4:30 p.m. – 5:00 p.m.		

Demonstration schedule listed as of 9/22/2014. For the most up-to-date list of exhibitor demonstrations, please stop by the ACI Registration Desk or check the digital monitor in the exhibit hall.

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

* = Guest-only event ✓ = Separate fee required TG = Task Group

Friday, October 24, 2014		
6:30 pm - 9:00 pm		
TAC	Technical Activities M1	COLUMBIA 12
Saturday, October 25, 2014		
7:00 am - 6:00 pm		
TAC	Technical Activities M2	COLUMBIA 12
8:30 am - 5:30 pm		
131-TG	BIM M1	COLUMBIA 4
10:00 am - 12:00 pm		
562-D	Design M1	COLUMBIA 3
1:00 pm - 2:00 pm		
562-D	Design M2	COLUMBIA 3
1:00 pm - 4:00 pm		
562-A	General	COLUMBIA 2
1:00 pm - 5:00 pm		
EAC	Educational Activities M1	COLUMBIA 10
301	Specifications M1	COLUMBIA 9
2:00 pm - 6:00 pm		
	ACI Registration	COLUMBIA 5-8
	ACI Bookstore & Pavilion	COLUMBIA WEST
	ACI Speaker Ready Room	COLUMBIA WEST & 5-8
	Afternoon Soda Break	COLUMBIA WEST
2:00 pm - 9:00 pm		
347	Formwork M1	COLUMBIA 1
4:00 pm - 5:00 pm		
562-C	Evaluation M1	COLUMBIA 2
6:00 pm - 8:00 pm		
562-C	Evaluation M2	COLUMBIA 2
6:00 pm - 9:00 pm		
562-F	Durability	CARDOZO

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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Sunday, October 26, 2014		
5:00 am and 6:00 am		
	Run/Walk Meet-Up	TERRACE-LEVEL LOBBY ENTRANCE
6:00 am - 6:45 am		
	Morning Yoga Class	INTERNATIONAL TERRACE EAST
7:00 am - 8:15 am		
301-SC	Spec-Steering Committee	MONROE
7:00 am - 10:00 am		
	*Guest Hospitality and Overview	INTERNATIONAL TERRACE WEST
	Coffee Break	COLUMBIA WEST & 5-8
7:00 am - 2:00 pm		
TAC	Technical Activities M3	COLUMBIA 12
7:00 am - 6:00 pm		
	Speaker Ready Room	COLUMBIA WEST
7:30 am - 5:00 pm		
	ACI Registration	COLUMBIA 5-8
8:00 am - 8:30 am		
408-A	Mech Splices	COLUMBIA 11
8:00 am - 9:00 am		
	Convention Orientation Breakfast	COLUMBIA 1 & 2
8:00 am - 9:30 am		
341-B	Equake Res Brdgs-Pier Walls	JEFFERSON EAST
8:00 am - 10:00 am		
E706	Concrete Repair Education	CARDOZO
S801	Student Activities	KALORAMA
445-B	Shear & Torsn-Seismic Shear	JAY
562-B	Loads	COATS
8:00 am - 10:30 am		
CLC	Construction Liaison	FAIRCHILD EAST
8:00 am - 11:00 am		
TAC-RG1	TAC Review Group 1	MORGAN

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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TAC-RG2	TAC Review Group 2	NORTHWEST
TAC-RG3	TAC Review Group 3	HOLMEAD
8:00 am - 5:00 pm		
	ACI Bookstore & Pavilion	COLUMBIA WEST
	Exhibits	COLUMBIA WEST & 5-8
8:30 am - 10:00 am		
314	Simplified Design Buildings	MONROE
342	Bridge Evaluation	GUNSTON WEST
8:30 am - 11:30 am		
MEMC	Membership	GUNSTON EAST
301	Specifications M2	LINCOLN WEST
350-C	Env Str-Reinf & Devel	FAIRCHILD WEST
408	Development and Splicing	COLUMBIA 11
440-K	FRP-Material Characteristics	LINCOLN EAST
8:30 am - 12:30 pm		
347	Formwork M2	JEFFERSON WEST
9:00 am - 10:00 am		
546-C	Repair-Guide	COLUMBIA 10
9:00 am - 10:30 am		
E701	Materials for Concrete Construction	COLUMBIA 9
9:00 am - 12:00 pm		
551	Tilt-Up	EMBASSY
9:30 am - 11:00 am		
341-A	Equake Res Brdgs-Columns	INDEPENDENCE
9:30 am - 12:30 pm		
228	Nondestructive Testing	JEFFERSON EAST
10:00 am - 11:00 am		
343-G	Editorial	KALORAMA
10:00 am - 11:30 am		
C601-D	Decorative Concrete Finisher	CARDOZO
Intl-Frm	ACI International Forum	GEORGETOWN EAST
445-D	Shear & Torsn-Database	COLUMBIA 3
10:00 am - 12:00 pm		
C660	Shotcrete Nozzleman Cert	COLUMBIA 10

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.
* = Guest-only event ✓ = Separate fee required TG = Task Group

Sunday, October 26, 2014 (cont.)		
301-E	Spec-Post-Tensioned Concrete	COATS
369	Seismic Rehab M1 Part 1	GUNSTON WEST
10:00 am - 1:00 pm		
421	Reinf Slabs	MONROE
10:00 am - 5:00 pm		
	*Guest Lounge	INTERNATIONAL TERRACE WEST
10:30 am - 12:00 pm		
376-1	Steering Subcommittee	COLUMBIA 9
10:30 am - 1:30 pm		
ITG-10	Alternative Cementitious Materials	COLUMBIA 4
445-A	Shear & Torsn-Strut & Tie	FAIRCHILD EAST
10:30 am - 4:00 pm		
	Student Egg Protection Device and Fresh Mortar Workability Competitions	COLUMBIA 5-8
11:00 am - 12:00 pm		
343-A	Design	KALORAMA
11:00 am - 12:30 pm		
224	Cracking	PISCATAWAY
341-D	Perf Based Seismic Design	INDEPENDENCE
11:00 am - 1:00 pm		
C640	Craftsman Cert	MORGAN
423-E	Prestress-Losses	HOLMEAD
549	Thin Reinforced	NORTHWEST
11:00 am - 2:00 pm		
	Lunch Concessions	COLUMBIA 5-8
11:30 am - 12:30 pm		
201-TG2	Physical Salt Attack	COLUMBIA 11
209-C	Models Applicability and Uncertainty	DU PONT
441-B	Lateral Reinf	GUNSTON EAST
11:30 am - 1:00 pm		
221	Aggregates	L'ENFANT
335	Composite Hybrid	LINCOLN WEST

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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350-SC	Env Str-Steering Comm	FAIRCHILD WEST
11:30 am - 1:30 pm		
	✓International Lunch	INTERNATIONAL BALLROOM WEST
423-F	Sustainable Prestressed Concrete	COLUMBIA 2
440-TG	Repair Construction Specification	LINCOLN EAST
12:00 pm - 2:00 pm		
201-TG3	Alkali-Aggregate Reactivity	COLUMBIA 1
201-TG4	Impact of Natural and Other Pozzolans on Durability	COLUMBIA 10
12:00 pm - 4:30 pm		
237-TG1	Self-Consolidating Concrete Task Group	COLUMBIA 9
12:30 pm - 2:00 pm		
130-F	Social Issues	COLUMBIA 11
445-E	Shear & Torsn-SOA Torsion	COATS
12:30 pm - 2:30 pm		
133	Disaster Reconnaissance	DU PONT
12:30 pm - 3:30 pm		
352	Joints	PISCATAWAY
12:30 pm – 4:00 pm		
	✓First Ladies Tour	DEPART TERRACE-LEVEL LOBBY ENTRANCE
12:30 pm - 4:30 pm		
301-B	Spec-Formwork & Reinforcement	INDEPENDENCE
12:30 pm - 5:30 pm		
301	Specifications M3	JEFFERSON WEST
1:00 pm - 2:00 pm		
301-H	Spec-Tilt-Up Constr & Arch Conc	COLUMBIA 3
1:00 pm - 3:00 pm		
228-B	Visual Inspection	MONROE
376-B	Materials Subcommittee	CARDOZO
445-C	Shear & Torsn-Punching Shear	HOLMEAD
1:00 pm - 3:00 pm—*Sessions*		
	Aggregate Optimization and Packing	GEORGETOWN EAST

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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Sunday, October 26, 2014 (cont.)		
	Lightweight Self-Consolidating Concrete Research and Applications	INTERNATIONAL BALLROOM EAST
	Structural Health Monitoring of Concrete Structures (Durability), Part 1 of 6	CABINET
	Toward Sustainable Infrastructure with Fiber-Reinforced Polymer Composites, Part 1 of 2	GEORGETOWN WEST
1:00 pm - 4:00 pm		
362-A	Updating Guide to Structural Maintenance of Parking Structures Documents	L'ENFANT
369	Seismic Rehab M1 Part 2	EMBASSY
	Afternoon Soda Break	COLUMBIA WEST & 5-8
1:00 pm - 5:00 pm		
301-C	Spec-Placing Consolidating & Curing	GUNSTON EAST
301-D	Spec-Lightweight & Massive Concrete	NORTHWEST
301-G	Spec-Shrink Comp Conc & Ind Floor Slabs	GUNSTON WEST
336	Footings	MORGAN
350-E	Env Str-Precast/Prestressed	FAIRCHILD WEST
562	Eval, Repair & Rehab	LINCOLN WEST
1:30 pm - 2:30 pm		
506-B	Shotcreting-Fiber-Reinforced	KALORAMA
1:30 pm - 3:00 pm		
Intl-Cert	International Certification	COLUMBIA 4
341-C	Equake Res Brdgs-Retrofit	COLUMBIA 2
440-E	FRP-Prof Education	LINCOLN EAST
1:30 pm - 3:30 pm		
345	Bridge Construction	FAIRCHILD EAST
1:30 pm - 5:00 pm		
355	Anchorage	JEFFERSON EAST
2:00 pm - 3:00 pm		
310/308-TG2	Curing Decorative Concrete Joint TG	COLUMBIA 10
2:00 pm - 3:30 pm		
C650	Tilt-Up Constructor Cert	COLUMBIA 1
2:00 pm - 4:00 pm		
215	Fatigue	COLUMBIA 11

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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305	Hot Weather	COATS
2:00 pm - 5:00 pm		
132	Responsibility	COLUMBIA 3
315	Detailing	JAY
2:30 pm - 4:00 pm		
HTC	Hot Topic	DU PONT
2:30 pm - 5:00 pm		
363	High-Strength	COLUMBIA 12
3:00 pm - 5:00 pm		
341	Earthquake Resistant Bridges	MONROE
370	Blast and Impact Load Effects	COLUMBIA 2
376-C	Analysis Subcommittee	COLUMBIA 10
440-L	FRP-Durability	LINCOLN EAST
550	Precast Structures	CARDOZO
3:00 pm - 5:30 pm		
121	Quality Assurance	HOLMEAD
310	Decorative Concrete	COLUMBIA 4
3:30 pm - 5:00 pm		
236-D	Material Science-Nanotechnology of Concrete M1	COLUMBIA 1
439-A	Steel Reinforcement-Wire	FAIRCHILD EAST
3:30 pm - 5:30 pm		
	Meridian Hill Park Walking Tour (Registration Required)	DEPART TERRACE-LEVEL LOBBY ENTRANCE
423/445	Adhoc Grp on Shear in Prestress Conc	PISCATAWAY
3:30 pm - 5:30 pm—*Sessions*		
	Emerging Technologies in Civil Infrastructure	INTERNATIONAL BALLROOM EAST
	James K. Wight: A Tribute from His Students and Colleagues, Part 1 of 3	GEORGETOWN EAST
	Structural Health Monitoring of Concrete Structures (Durability), Part 2 of 6	CABINET
	Toward Sustainable Infrastructure with Fiber-Reinforced Polymer Composites, Part 2 of 2	GEORGETOWN WEST

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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Sunday, October 26, 2014 (cont.)		
4:00 pm - 5:00 pm		
423-D	Bond & Dev Pretnsn Membrs	COATS
4:00 pm - 5:30 pm		
S805	ACI Collegiate Concrete Council	COLUMBIA 11
123	Research	L'ENFANT
309	Consolidation	DU PONT
4:30 pm - 5:30 pm		
236-TG1	Advanced Analysis Techniques for Concrete	INDEPENDENCE
5:45 pm - 7:00 pm		
	Opening Session and Katharine & Bryant Mather Commemorative Lecture Series	INTERNATIONAL BALLROOM CENTER
7:00 pm - 8:00 pm		
	Opening Reception	COLUMBIA WEST & 5-8
8:00 pm - 10:00 pm		
	Hot Topic Session: Teaching with the New ACI 318-14: A Session for Educators	INTERNATIONAL BALLROOM EAST
9:00 pm - 10:30 pm		
	Student and Young Professional Networking Event	DISTRICT LINE BAR
Monday, October 27, 2014		
5:00 am and 6:00 am		
	Run/Walk Meet-Up	TERRACE-LEVEL LOBBY ENTRANCE
6:00 am - 6:45 am		
	Morning Yoga Class	INTERNATIONAL TERRACE EAST
6:30 am - 8:00 am		
	Workshop for Technical Committee Chairs (Invitation Only)	INTERNATIONAL BALLROOM WEST
7:00 am - 8:30 am		
	Speaker Development Breakfast	INTERNATIONAL TERRACE EAST
7:00 am - 10:00 am		
	*Guest Hospitality	INTERNATIONAL TERRACE WEST

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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	Coffee Break	COLUMBIA WEST & 5-8
7:00 am - 6:00 pm		
	Speaker Ready Room	COLUMBIA WEST
7:15 am - 8:30 am		
IC-Conf	International Conferences	PISCATAWAY
7:30 am - 9:30 am		
349-C	Nuclear Str-Anchorage	KALORAMA
7:30 am - 5:00 pm		
	ACI Registration	COLUMBIA 5-8
8:00 am - 9:00 am		
441-A	High-Strength Conc	HOLMEAD
8:00 am - 10:00 am		
376-D	Design & Construction Subcommittee	JAY
562-E	Education	COATS
8:00 am - 5:00 pm		
	ACI Bookstore & Pavilion	COLUMBIA WEST
	Exhibits	COLUMBIA WEST & 5-8
8:15 am - 9:00 am		
343-B	Bridge Deck	MORGAN
8:15 am - 11:00 am		
237	Self-Consolidating Concrete	LINCOLN EAST
548-A	Polymers-Overlays	INDEPENDENCE
8:30 am - 9:30 am		
S802	Teaching Methods and Educational Materials	GUNSTON WEST
8:30 am - 10:00 am		
130-A	Materials	COLUMBIA 3
440-M	FRP-Repair of Masonry Str	JEFFERSON
524	Plastering	EMBASSY
533	Precast Panels	COLUMBIA 12
544-SC	FRC-Steering Committee	DU PONT
8:30 am - 10:30 am		
439	Steel Reinforcement	COLUMBIA 1 & 2
506-C	Shotcreting-Guide	GUNSTON EAST
546	Repair	COLUMBIA 9

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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Monday, October 27, 2014 (cont.)		
8:30 am - 10:30 am—*Sessions*		
	Design and Construction Challenges of Atypical RC Columns	GEORGETOWN WEST
	Novel Characterization Techniques and Advanced Cementitious Materials: Tribute to James J. Beaudoin, Part 1 of 2	GEORGETOWN EAST
	Research in Progress, Part 1 of 2	INTERNATIONAL BALLROOM EAST
	Structural Health Monitoring of Concrete Structures (Durability), Part 3 of 6—Tribute to Richard Weyers	CABINET
8:30 am - 11:00 am		
C610	Field Technician Cert	MONROE
355-TG	Anchorage TG	COLUMBIA 4
8:30 am - 11:30 am		
543	Piles	FAIRCHILD WEST
8:30 am - 12:00 pm		
301-A	Spec-Gen Req, Definitions, & Tolerances	NORTHWEST
8:30 am - 12:30 pm		
423	Prestressed	COLUMBIA 10
8:30 am - 1:00 pm		
302	Floor Construction	INTERNATIONAL BALLROOM CENTER
350-B	Env Str-Durability	FAIRCHILD EAST
8:30 am - 6:30 pm		
350-D	Env Str-Structural	PISCATAWAY
9:00 am - 11:00 am		
365	Service Life	MORGAN
9:00 am - 12:00 pm		
301-F	Spec-Precast Concrete Panels	HOLMEAD
9:45 am - 10:15 am		
	Hilti Inc Demonstration	COLUMBIA 5-8
10:00 am - 11:30 am		
318-L	International Liaison	KALORAMA
440-J	FRP Stay-in-Place Forms	COLUMBIA 12

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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10:00 am - 12:00 pm		
216	Fire Resistance	COATS
343	Bridge Design	JEFFERSON
376-A	Code, Education & Publication Subcommittee	DU PONT
10:00 am - 12:30 pm		
377-FM	Performance-Based Structural Integrity & Resilience of Concrete Structures	CARDOZO
10:00 am - 1:00 pm		
209	Creep & Shrinkage	EMBASSY
240	Natural Pozzolans	JAY
10:00 am - 5:00 pm		
	*Guest Lounge	INTERNATIONAL TERRACE WEST
10:30 am - 11:00 am		
	ASTM International Demonstration	COLUMBIA 5-8
10:30 am - 12:30 pm		
437	Strength Evaluation	COLUMBIA 9
506-E	Shotcreting-Specifications	GUNSTON EAST
10:30 am - 1:00 pm		
207	Mass Concrete	COLUMBIA 1 & 2
11:00 am - 12:00 pm		
364-TG1	Rehab Guide	MONROE
11:00 am - 12:30 pm		
318-S	Spanish Translation	L'ENFANT
548-C	Structural Polymer Design	MORGAN
11:00 am - 1:00 pm		
C655	Foundation Constructor Certification	INDEPENDENCE
11:00 am - 1:00 pm—*Sessions*		
	In-Situ Transport Measurements	GEORGETOWN WEST
	Novel Characterization Techniques and Advanced Cementitious Materials: Tribute to James J. Beaudoin, Part 2 of 2	GEORGETOWN EAST
	Research in Progress, Part 2 of 2	INTERNATIONAL BALLROOM EAST
	Structural Health Monitoring of Concrete Structures (Serviceability), Part 4 of 6	CABINET

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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Monday, October 27, 2014 (cont.)		
11:00 am - 1:30 pm		
447	Finite Element Analysis M1	COLUMBIA 3
11:00 am - 2:00 pm		
	Lunch Concessions	COLUMBIA 5-8
11:15 am - 11:45 am		
	SAS Stressteel Demonstration	COLUMBIA 5-8
11:30 am - 1:00 pm		
544-A	FRC-Production & Applications	FAIRCHILD WEST
11:30 am - 1:30 pm		
	✓Student Lunch	INTERNATIONAL BALLROOM WEST
11:30 am - 2:00 pm		
441	Columns	COLUMBIA 12
12:00 pm - 12:30 pm		
	QuakeWrap, Inc. Demonstration	COLUMBIA 5-8
12:00 pm - 1:00 pm		
343-H	Detailing and Constructability	COLUMBIA 11
12:00 pm - 2:00 pm		
214	Strength Tests M1	COATS
12:30 pm - 2:00 pm		
124	Aesthetics	MORGAN
201-D	Durability-Oversight Committee	GUNSTON EAST
350-H	Env Str-Editorial	L'ENFANT
12:30 pm - 6:00 pm		
301	Specifications M4	MONROE
1:00 pm - 2:00 pm		
130-B	Production/Transport/Construction	INDEPENDENCE
1:00 pm - 2:30 pm		
C630	Construction Inspector Cert	COLUMBIA 9
1:00 pm - 3:00 pm		
C601-F	Nondestructive Testing Technician	JAY
122	Energy Efficiency	EMBASSY
239-A	Emerging Technology Report	DU PONT

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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350-J	Env Str-Education	FAIRCHILD EAST
351-D	Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures	KALORAMA
364	Rehabilitation	COLUMBIA 10
440-H	FRP-Reinforced Concrete	JEFFERSON EAST
1:00 pm - 3:30 pm		
375	Design for Wind Loads	FAIRCHILD WEST
1:00 pm - 4:00 pm		
232	Fly Ash in Concrete	COLUMBIA 11
376	RLG Containment Structures	CARDOZO
	Afternoon Soda Break	COLUMBIA WEST & 5-8
1:00 pm - 4:30 pm		
349-AB	Nuclear Structures-Design & Materials	COLUMBIA 1 & 2
1:00 pm - 5:00 pm		
225	Hydraulic Cements	COLUMBIA 4
362	Parking Structures	LINCOLN EAST
1:30 pm - 2:00 pm		
	Nitto Construction Demonstration	COLUMBIA 5-8
1:30 pm - 3:00 pm		
346	CIP Pipe	NORTHWEST
506-A	Shotcreting-Evaluation	HOLMEAD
1:30 pm - 3:30 pm—*Sessions*		
	Celebrating 100 Years of John Joseph Earley and the Earley Studio Work, Part 1 of 2	GEORGETOWN EAST
	James K. Wight: A Tribute from His Students and Colleagues, Part 2 of 3	GEORGETOWN WEST
	Lessons from the Past We Can Use Today	INTERNATIONAL BALLROOM EAST
	Structural Health Monitoring of Concrete Structures (Serviceability), Part 5 of 6	CABINET
2:00 pm - 3:30 pm		
S806	Young Professional Activities Committee	INDEPENDENCE
348	Safety	COATS

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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Monday, October 27, 2014 (cont.)		
2:00 pm - 4:00 pm		
231	Early Age	GUNSTON EAST
	Beer Garden sponsored by Nemetschek-Scia *While supplies last	COLUMBIA 5-8
2:00 pm - 5:00 pm		
CAC	Chapter Activities	COLUMBIA 12
MKTC	Marketing	COLUMBIA 3
212	Chemical Admixtures	MORGAN
307	Chimneys	L'ENFANT
2:00 pm - 6:00 pm		
369	Seismic Rehab M2	GUNSTON WEST
445	Shear & Torsion	LINCOLN WEST
2:00 pm - 6:30 pm		
360	Slabs on Ground	INTERNATIONAL BALLROOM CENTER
2:30 pm - 3:00 pm		
	S-FRAME Software Demonstration	COLUMBIA 5-8
3:00 pm - 4:00 pm		
201-TG1	Aggressive Chemicals	JAY
3:00 pm - 4:30 pm		
506-G	Qualifications for Projects	EMBASSY
3:00 pm - 5:00 pm		
351-C	Equip Fdns-Dynamic Fdns	NORTHWEST
371	Elevated Tanks with Concrete Pedestals	FAIRCHILD EAST
548-B	Polymers-Adhesives	KALORAMA
3:00 pm - 6:00 pm		
130	Sustainability M1	JEFFERSON
435	Deflection	HOLMEAD
440-F	FRP-Repair Strengthening	INTERNATIONAL BALLROOM WEST
3:30 pm		
	Cookies & Brownies sponsored in part by Vulcan Materials Company *while supplies last	COLUMBIA WEST & 5-8

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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3:30 pm - 5:00 pm		
211-P	Guide for Selecting Proportions for Pumpable Concrete	COATS
214	Strength Tests M2	FAIRCHILD WEST
446	Fracture Mechanics	COLUMBIA 10
	*Guest Social (by invitation only)	HEIGHTS COURTYARD Alternative Location for Inclement Weather: International Terrace East
3:30 pm - 5:30 pm		
239	Ultra-High Performance Concrete	INDEPENDENCE
3:45 pm - 4:15 pm		
	Powers Fasteners Demonstration	COLUMBIA 5-8
4:00 pm - 5:30 pm		
235	Electronic Data Exchange	CARDOZO
304	Measuring/Mix/Trans/Placing	COLUMBIA 11
4:00 pm - 6:00 pm—*Sessions*		
	James K. Wight: A Tribute from His Students and Colleagues, Part 3 of 3	GEORGETOWN WEST
	Service-Life Modeling—Case Studies and Validation	INTERNATIONAL BALLROOM EAST
	Structural Health Monitoring of Concrete Structure (Serviceability), Part 6 of 6	CABINET
	Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 1 of 3	GEORGETOWN EAST
4:30 pm - 5:30 pm		
236	Material Science	COLUMBIA 1 & 2
506-F	Shotcreting-Underground	EMBASSY
4:30 pm - 6:30 pm		
221-TG1	Task Group on AAR	DU PONT
5:00 pm - 6:00 pm		
334	Shells	L'ENFANT
5:00 pm - 6:30 pm		
E702	Designing Concrete Structures	NORTHWEST

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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Monday, October 27, 2014 (cont.)		
209-D	Numerical Methods and 3D Analyses	FAIRCHILD EAST
351-TG	Spec for Cementitious Grouting Between Foundations & Equipment Bases	COATS
364-A	Editorial Subcommittee	COLUMBIA 4
447-TG	Finite Element Analysis M2	KALORAMA
544-E	FRC-Mechanical Properties	MORGAN
555	Recycled	COLUMBIA 12
5:00 pm - 7:00 pm		
E703	Concrete Construction Practices	COLUMBIA 3
6:00 pm - 7:00 pm		
	Women in ACI Reception	HEIGHTS COURTYARD Alternative Location for Inclement Weather: International Terrace East
6:00 pm - 7:30 pm		
TDSC	TAC Design Standards Committee	L'ENFANT
6:30 pm - 7:30 pm		
	✓Reception Honoring James K. Wight	COLUMBIA 9 & 10
6:30 pm - 8:30 pm		
	123 Forum: Is Roller-Compacted Concrete Ready for the Prime-Time Paving Market?	INTERNATIONAL BALLROOM EAST
7:30 pm - 10:30 pm		
	✓Illuminated Monument Tour	DEPART TERRACE-LEVEL LOBBY ENTRANCE
Tuesday, October 28, 2014		
5:00 am and 6:00 am		
	Run/Walk Meet-Up	TERRACE-LEVEL LOBBY ENTRANCE
6:30 am - 8:00 am		
TTAG	Technology Transfer Advisory Group	LINCOLN EAST
7:00 am - 8:30 am		
IPAC	International Project Awards Committee	DU PONT
TRRC	TAC Repair & Rehab	NORTHWEST

Daily Program

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7:00 am - 9:00 am		
374	Seismic Design M1	COLUMBIA 1
7:00 am - 10:00 am		
	*Guest Hospitality	INTERNATIONAL TERRACE WEST
	Coffee Break	COLUMBIA WEST & 5-8
7:00 am - 6:00 pm		
	Speaker Ready Room	COLUMBIA WEST
7:30 am - 8:30 am		
	Media Breakfast	EMBASSY
7:30 am - 9:00 am		
C601-E	Concrete Construction Sustainability	KALORAMA
130-G	Education/Certification	L'ENFANT
7:30 am - 5:00 pm		
	ACI Registration	COLUMBIA 5-8
8:00 am - 9:30 am		
C601	New Certification Programs	JAY
C620	Laboratory Tech Cert	MONROE
230	Soil Cement	MORGAN
8:00 am - 10:00 am		
238	Workability of Fresh Concrete	PISCATAWAY
444	Structural Health Monitoring and Instrumentation	INDEPENDENCE
544-B	FRC-Education	LINCOLN WEST
8:00 am - 11:00 am		
201	Durability	JEFFERSON EAST
440	Fiber-Reinforced Polymer	INTERNATIONAL BALLROOM CENTER
522	Pervious Concrete	COLUMBIA 12
8:00 am - 12:00 pm		
EAC	Educational Activities M2	COLUMBIA 11
8:00 am - 12:30 pm		
318	Building Code	JEFFERSON WEST

Daily Program

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Tuesday, October 28, 2014 (cont.)		
8:00 am - 5:00 pm		
	ACI Bookstore & Pavilion	COLUMBIA WEST
	Exhibits	COLUMBIA WEST & 5-8
8:30 am - 10:30 am		
523	Cellular Concrete	COLUMBIA 10
560	Design & Constr ICFs	CARDOZO
8:30 am - 10:30 am—*Sessions*		
	ACI 515.2 Guide to Protective Systems, Part 1 of 2	INTERNATIONAL BALLROOM EAST
	Design of Concrete Structures for Vibration-Sensitive Environments	GEORGETOWN WEST
	Self-Consolidating Concrete for Deep Foundations	CABINET
	Structural Integrity and Resilience, Part 1 of 2	GEORGETOWN EAST
8:30 am - 11:30 am		
117	Tolerances	COLUMBIA 9
306	Cold Weather	COLUMBIA 4
350-G&K	Env Str-Tightness Testing/Haz Mat	COLUMBIA 2
506	Shotcreting	LINCOLN EAST
548	Polymers	DU PONT
8:30 am - 3:30 pm		
350-F	Env Str-Seismic	NORTHWEST
9:00 am - 9:30 am		
	Bentley Systems Demonstration	COLUMBIA 5-8
9:00 am - 10:00 am		
325-A	Pavements-Design	COLUMBIA 3
9:00 am - 10:30 am		
332-B	Conc Mtrls and Plcmnt	L'ENFANT
332-D	Residential Conc-Footings & Foundation Walls	KALORAMA
9:00 am - 11:00 am		
515	Protective Systems	COLUMBIA 1
9:00 am - 11:30 am		
IAC	International Advisory Committee	HOLMEAD

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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9:30 am - 11:00 am		
PUBC	Publications	MORGAN
130-E	Design/Specifications/Codes/Regulations	GUNSTON WEST
9:30 am - 12:30 pm		
357	Offshore & Marine	JAY
9:30 am - 2:00 pm		
	✓Private Capitol Collection Tour	DEPART TERRACE-LEVEL LOBBY ENTRANCE
9:45 am - 10:15 am		
	Vector Corrosion Technologies, Inc. Demonstration	COLUMBIA 5-8
10:00 am - 11:00 am		
349/359	ACI 349 and ACI 359 Joint Committee TG	LINCOLN WEST
10:00 am - 11:30 am		
C631	Conc Transportation Const Insp	MONROE
310-J	Polished Finishes	COATS
10:00 am - 12:00 pm		
211-A	Proportioning-Editorial	PISCATAWAY
10:00 am - 5:00 pm		
	*Guest Lounge	INTERNATIONAL TERRACE EAST
10:30 am - 11:00 am		
	Updates to the Completely Reorganized ACI 318-14	GUNSTON EAST
	Zircon Corporation Demonstration	COLUMBIA 5-8
10:30 am - 12:00 pm		
325-C	Pavements-Prestressed and Precast	COLUMBIA 3
332-E	Residential Concrete-Above Grade Walls	KALORAMA
332-F	Residential Concrete-Slabs	L'ENFANT
544-F	FRC-Durability	CARDOZO
10:30 am - 1:00 pm		
526	Autoclaved Aerated Concrete	COLUMBIA 10
11:00 am - 11:30 am		
	How the New ACI 318-14 Construction Chapter will Impact the Industry	GUNSTON EAST

Daily Program

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Tuesday, October 28, 2014 (cont.)		
11:00 am - 12:00 pm		
C601-H	Cement Testing	JEFFERSON EAST
11:00 am - 12:30 pm		
213-TG1	Lightweight-Editorial TG	MORGAN
11:00 am - 1:00 pm		
CRC	Concrete Research Council	LINCOLN WEST
130	Sustainability M2	INTERNATIONAL BALLROOM CENTER
327	RCC Pavements	COLUMBIA 12
11:00 am - 1:00 pm—*Sessions*		
	ACI 515.2 Guide to Protective Systems, Part 2 of 2	INTERNATIONAL BALLROOM EAST
	Air-Entraining and SCC Frost Durability	GEORGETOWN WEST
	Does Size Matter 4x8s vs. 6x12s? If Not Size, What Does Matter?	CABINET
	Structural Integrity and Resilience, Part 2 of 2	GEORGETOWN EAST
11:00 am - 1:30 pm		
374	Seismic Design M2	COLUMBIA 1
11:15 am - 11:45 am		
	BakerRisk Demonstration	COLUMBIA 5-8
11:30 am - 1:00 pm		
E707	Specification Education	HOLMEAD
211-E	Proportioning-Evaluation	COATS
544-D	FRC-Structural Uses	MONROE
11:30 am - 1:30 pm		
	✓Contractors' Day Lunch	INTERNATIONAL BALLROOM WEST
11:30 am - 5:00 pm		
350-A	Env Str-General & Concrete	GUNSTON WEST
12:00 pm - 12:30 pm		
	Humboldt Mfg. Co. Demonstration	COLUMBIA 5-8
12:30 pm - 2:00 pm		
C680	Adhesive Anchor Installer	PISCATAWAY
12:30 pm - 2:30 pm		

Daily Program

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311	Inspection	JAY
1:00 pm - 2:00 pm		
223-TG1	Design Considerations	HOLMEAD
1:00 pm - 3:00 pm		
211-F	Proportioning-Submittal	CARDOZO
211-I	Assessing Aggregate Gradation	COLUMBIA 12
236-D	Material Science-Nanotechnology of Concrete M2	COATS
325-D	Proportioning for Pavements	MORGAN
1:00 pm - 4:00 pm		
	Afternoon Soda Break	COLUMBIA WEST & 5-8
1:00 pm - 5:00 pm		
349	Nuclear Structures	JEFFERSON EAST
563	Specs Repair of Sruct Conc in Bldgs	COLUMBIA 10
1:30 pm - 3:00 pm		
120	History	L'ENFANT
544-C	FRC-Testing	LINCOLN WEST
1:30 pm - 3:30 pm		
213	Lightweight	COLUMBIA 1
1:30 pm - 3:30 pm—*Sessions*		
	Celebrating 100 Years of John Joseph Earley and the Earley Studio Work, Part 2 of 2	GEORGETOWN WEST
	Contractors' Day Session: Contract Law, Part 1 of 2	GEORGETOWN EAST
	Open Paper Session, Part 1 of 2	INTERNATIONAL BALLROOM EAST
	Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 2 of 3	CABINET
1:30 pm - 5:00 pm		
332	Residential Concrete	LINCOLN EAST
1:30 pm - 6:00 pm		
318-B	Anchorage & Reinforcement	EMBASSY
318-C	Serviceability/Safety	FAIRCHILD EAST
318-E	Section & Member Strength	FAIRCHILD WEST

Daily Program

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Tuesday, October 28, 2014 (cont.)		
318-G	Precast & Prestressed	GUNSTON EAST
318-M	Metrication	JEFFERSON WEST
2:00 pm - 3:30 pm		
118	Use of Digital Technology	COLUMBIA 2
325-E	Pavements-Design	COLUMBIA 3
2:00 pm - 4:00 pm		
130-D	Rating Systems/Sustainability Tools	COLUMBIA 11
351	Equip Foundations	DU PONT
2:00 pm - 4:30 pm		
234	Silica Fume	PISCATAWAY
2:00 pm - 5:00 pm		
CPC	Certification Programs	INDEPENDENCE
222	Corrosion	COLUMBIA 4
223	Shrinkage Compensating	HOLMEAD
229	Controlled Low Strength	COLUMBIA 9
233	Slag Cement	KALORAMA
2:15 pm - 2:45 pm		
	ADAPT Corporation Demonstration	COLUMBIA 5-8
2:45 pm - 3:15 pm		
	BASF Construction Chemicals Demonstration	COLUMBIA 5-8
3:00 pm - 5:00 pm		
131	BIM M2	COLUMBIA 12
211-N	Proportioning - Limestone	CARDOZO
372	Tanks Wrapped Wire/Strand	MORGAN
3:00 pm - 5:30 pm		
544	Fiber-Reinforced Concrete	LINCOLN WEST
3:00 pm - 6:00 pm		
318-F	Foundations	COATS
3:30 pm - 5:00 pm		
363-A	High-Strength Lightweight Concrete	NORTHWEST
3:30 pm - 5:30 pm		
325	Pavements	COLUMBIA 3

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

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4:00 pm - 5:30 pm		
308-B	Curing-Specifications	DU PONT
552	Cementitious Grouting	L'ENFANT
4:00 pm - 4:30 pm		
	Olson Engineering, Inc. Demonstration	COLUMBIA 5-8
4:00 pm - 6:00 pm		
350-L	Env Str-Specification	JAY
4:00 pm - 6:00 pm—*Sessions*		
	Contractors' Day Session: Contract Law, Part 2 of 2	GEORGETOWN EAST
	Open Paper Session, Part 2 of 2	INTERNATIONAL BALLROOM EAST
	Self-Consolidating Concrete for Precast/ Prestressed Applications	GEORGETOWN WEST
	Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 3 of 3	CABINET
5:30 pm - 6:30 pm		
	Faculty Network Reception	INTERNATIONAL BALLROOM WEST
6:30 pm - 8:30 pm		
	Concrete Mixer	INTERNATIONAL BALLROOM CENTER
Wednesday, October 29, 2014		
5:00 am and 6:00 am		
	Run/Walk Meet-up	TERRACE-LEVEL LOBBY ENTRANCE
7:00 am - 8:00 am		
CSAO	Codes and Standards Advocacy and Outreach	CARDOZO
7:00 am - 9:00 am		
SYPAC	Student and Young Professional Activities	FAIRCHILD EAST
7:00 am - 10:00 am		
	*Guest Hospitality	INTERNATIONAL TERRACE WEST
	Coffee Break	COLUMBIA WEST & 5-8

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

* = Guest-only event ✓ = Separate fee required TG = Task Group

Wednesday, October 29, 2014 (cont.)		
7:30 am - 2:00 PM		
	Speaker Ready Room	COLUMBIA WEST
7:30 am - 10:00 am		
TCSC	TAC Construction Stnds	ALBRIGHT
8:00 am - 10:00 am		
308-A	Curing-Guide	MORGAN
8:00 am - 11:00 am		
211	Proportioning	LINCOLN EAST
8:00 am - 11:30 am		
330	Parking Lots & Site Paving	EMBASSY
8:00 am - 12:00 pm		
	ACI Bookstore & Pavilion	COLUMBIA WEST
	ACI Registration	COLUMBIA WEST
	Concrete Sustainability Forum	INTERNATIONAL BALLROOM EAST
	✓John J. Earley Architectural Concrete—Centennial Review and Guided Tour	DEPART TERRACE-LEVEL LOBBY ENTRANCE
8:00 am - 12:30 pm		
318-A	General Concrete Constr	COLUMBIA 2
318-D	Members	COLUMBIA 1
318-H	Seismic Provisions	COLUMBIA 3
318-J	Joints & Connections	COLUMBIA 4
318-R	High Strength Reinforcement	KALORAMA
8:00 am - 5:00 pm		
350	Environmental Structures	JEFFERSON
8:30 am - 10:00 am		
C670	Masonry Technician Certification	FAIRCHILD WEST
8:30 am - 10:30 am		
303	Architectural CIP	L'ENFANT
8:30 am - 10:30 am—*Sessions*		
	Advances in Pervious Concretes	CABINET
	Cast-in-Place Concrete Pipe	GEORGETOWN WEST

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

* = Guest-only event ✓ = Separate fee required TG = Task Group

	Improving Early-Age Properties of Concrete with SCMs, Part 1 of 2	INTERNATIONAL BALLROOM WEST
	UHPC Behavior under Blast and Impact Load Effects, Part 1 of 2	GEORGETOWN EAST
9:00 am - 12:00 pm		
ACIFdn	ACI Foundation	FAIRCHILD EAST
9:30 am - 11:30 am		
329	Perf. Ready Mixed	LINCOLN WEST
10:00 am - 12:30 pm		
C601-B	Concrete Quality Technical Mgr	FAIRCHILD WEST
10:00 am - 1:00 pm		
308	Curing	MORGAN
10:00 am - 5:00 pm		
	*Guest Lounge	INTERNATIONAL TERRACE WEST
11:00 am - 1:00 pm—*Sessions*		
	Advances in Nondestructive Evaluation Methods for Bridge Condition Assessment	CABINET
	Concrete with Recycled Materials, Part 1 of 2	GEORGETOWN WEST
	Improving Early-Age Properties of Concrete with SCMs, Part 2 of 2	INTERNATIONAL BALLROOM WEST
	UHPC Behavior under Blast and Impact Load Effects, Part 2 of 2	GEORGETOWN EAST
12:00 pm - 2:00 pm		
SB	Standards Board	L'ENFANT
12:00 pm - 5:00 pm		
	✓Concrete Sustainability Forum Lunch and Designing for Disaster Tour	COLUMBIA 9-12

Daily Program

Program changes are available at ACI Registration in COLUMBIA 5-8.

* = Guest-only event ✓ = Separate fee required TG = Task Group

1:30 pm - 3:30 pm—*Sessions*		
	Concrete with Recycled Materials, Part 2 of 2	GEORGETOWN WEST
	Fatigue in Plain and Reinforced Concrete	INTERNATIONAL BALLROOM WEST
	International Advances in Concrete Pavement	GEORGETOWN EAST
	The Life Cycle of Concrete Pavements around the World—Overlays, Pervious, Parking Lots, and Roads	CABINET
6:30 pm - 8:00 pm		
	President's Reception (invitation only)	INTERNATIONAL BALLROOM EAST
Thursday, October 30, 2014		
1:00 pm - 5:00 pm		
BOD	Board of Direction	GEORGETOWN

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
ACIFdn	ACI Foundation	Wed	9:00 am - 12:00 pm	FAIRCHILD EAST
BOD	Board of Direction	Thu	1:00 pm - 5:00 pm	GEORGETOWN
C601	New Certification Programs	Tue	8:00 am - 9:30 am	JAY
C601-B	Concrete Quality Technical Mgr	Wed	10:00 am - 12:30 pm	FAIRCHILD WEST
C601-D	Decorative Concrete Finisher	Sun	10:00 am - 11:30 am	CARDOZO
C601-E	Concrete Construction Sustainability	Tue	7:30 am - 9:30 am	KALORAMA
C601-F	Nondestructive Testing Technician	Mon	1:00 pm - 3:00 pm	JAY
C601-H	Cement Testing	Tue	11:00 am - 12:00 pm	JEFFERSON EAST
C610	Field Technician Cert	Mon	8:30 am - 11:00 am	MONROE
C620	Laboratory Tech Cert	Tue	8:00 am - 9:30 am	MONROE
C630	Construction Inspector Cert	Mon	1:00 pm - 2:30 pm	COLUMBIA 9
C631	Conc Transportation Const Insp	Tue	10:00 am - 11:30 am	MONROE
C640	Craftsman Cert	Sun	11:00 am - 1:00 pm	MORGAN
C650	Tilt-Up Constructor Cert	Sun	2:00 pm - 3:30 pm	COLUMBIA 1
C655	Foundation Constructor Certification	Mon	11:00 am - 1:00 pm	INDEPENDENCE
C660	Shotcrete Nozzleman Cert	Sun	10:00 am - 12:00 pm	COLUMBIA 10
C670	Masonry Technician Certification	Wed	8:30 am - 10:00 am	FAIRCHILD WEST
C680	Adhesive Anchor Installer	Tue	12:30 pm - 2:00 pm	PISCATAWAY
CAC	Chapter Activities	Mon	2:00 pm - 5:00 pm	COLUMBIA 12
CLC	Construction Liaison	Sun	8:00 am - 10:30 am	FAIRCHILD EAST
CPC	Certification Programs	Tue	2:00 pm - 5:00 pm	INDEPENDENCE
CRC	Concrete Research Council	Tue	11:00 am - 1:00 pm	LINCOLN WEST
CSAO	Codes and Standards Advocacy and Outreach	Wed	7:00 am - 8:00 am	CARDOZO
E701	Materials for Concrete Construction	Sun	9:00 am - 10:30 am	COLUMBIA 9
E702	Designing Concrete Structures	Mon	5:00 pm - 6:30 pm	NORTHWEST
E703	Concrete Construction Practices	Mon	5:00 pm - 7:00 pm	COLUMBIA 3

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
E706	Concrete Repair Education	Sun	8:00 am - 10:00 am	CARDOZO
E707	Specification Education	Tue	11:30 am - 1:00 pm	HOLMEAD
EAC	Educational Activities M1	Sat	1:00 pm - 5:00 pm	COLUMBIA 10
EAC	Educational Activities M2	Tue	8:00 am - 12:00 pm	COLUMBIA 11
HTC	Hot Topic	Sun	2:30 pm - 4:00 pm	DU PONT
IAC	International Advisory Committee	Tue	9:00 am - 11:30 am	HOLMEAD
IC-Conf	International Conferences	Mon	7:15 am - 8:30 am	PISCATAWAY
Intl-Cert	International Certification	Sun	1:30 pm - 3:00 pm	COLUMBIA 4
Intl-Frm	ACI International Forum	Sun	10:00 am - 11:30 am	GEORGETOWN EAST
IPAC	International Project Awards Committee	Tue	7:00 am - 8:30 am	DU PONT
ITG-10	Alternative Cementitious Materials	Sun	10:30 am - 1:30 pm	COLUMBIA 4
MEMC	Membership	Sun	8:30 am - 11:30 am	GUNSTON EAST
MKTC	Marketing	Mon	2:00 pm - 5:00 pm	COLUMBIA 3
PUBC	Publications	Tue	9:30 am - 11:00 am	MORGAN
S801	Student Activities	Sun	8:00 am - 10:00 am	KALORAMA
S802	Teaching Methods and Educational Materials	Mon	8:30 am - 9:30 am	GUNSTON WEST
S805	ACI Collegiate Concrete Council	Sun	4:00 pm - 5:30 pm	COLUMBIA 11
S806	Young Professional Activities	Mon	2:00 pm - 3:30 pm	INDEPENDENCE
SB	Standards Board	Wed	12:00 pm - 2:00 pm	L'ENFANT
SYPAC	Student and Young Professional Activities	Wed	7:00 am - 9:00 am	FAIRCHILD EAST
TAC	Technical Activities M1	Fri	6:30 pm - 9:00 pm	COLUMBIA 12
TAC	Technical Activities M2	Sat	7:00 am - 6:00 pm	COLUMBIA 12
TAC	Technical Activities M3	Sun	7:00 am - 2:00 pm	COLUMBIA 12
TAC-RG1	TAC Review Group 1	Sun	8:00 am - 11:00 am	MORGAN
TAC-RG2	TAC Review Group 2	Sun	8:00 am - 11:00 am	NORTHWEST
TAC-RG3	TAC Review Group 3	Sun	8:00 am - 11:00 am	HOLMEAD

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
TCSC	TAC Construction Stnds	Wed	7:30 am - 10:00 am	ALBRIGHT
TDSC	TAC Design Standards Committee	Mon	6:00 pm - 7:30 pm	L'ENFANT
TRRC	TAC Repair & Rehab	Tue	7:00 am - 8:30 am	NORTHWEST
TTAG	Technology Transfer Advisory Group	Tue	6:30 am - 8:00 am	LINCOLN EAST
117	Tolerances	Tue	8:30 am - 11:30 am	COLUMBIA 9
118	Use of Digital Technology	Tue	2:00 pm - 3:30 pm	COLUMBIA 2
120	History	Tue	1:30 pm - 3:00 pm	L'ENFANT
121	Quality Assurance	Sun	3:00 pm - 5:30 pm	HOLMEAD
122	Energy Efficiency	Mon	1:00 pm - 3:00 pm	EMBASSY
123	Research	Sun	4:00 pm - 5:30 pm	L'ENFANT
124	Aesthetics	Mon	12:30 pm - 2:00 pm	MORGAN
130	Sustainability M1	Mon	3:00 pm - 6:00 pm	JEFFERSON
130	Sustainability M2	Tue	11:00 am - 1:00 pm	INTERNATIONAL BALLROOM CENTER
130-A	Materials	Mon	8:30 am - 10:00 am	COLUMBIA 3
130-B	Production/Transport/Construction	Mon	1:00 pm - 2:00 pm	INDEPENDENCE
130-D	Rating Systems/Sustainability Tools	Tue	2:00 pm - 4:00 pm	COLUMBIA 11
130-E	Design/Specifications/Codes/ Regulations	Tue	9:30 am - 11:00 am	GUNSTON WEST
130-F	Social Issues	Sun	12:30 pm - 2:00 pm	COLUMBIA 11
130-G	Education/Certification	Tue	7:30 am - 9:00 am	L'ENFANT
131	BIM M2	Tue	3:00 pm - 5:00 pm	COLUMBIA 12
131-TG	BIM M1	Sat	8:30 am - 5:30 pm	COLUMBIA 4
132	Responsibility	Sun	2:00 pm - 5:00 pm	COLUMBIA 3
133	Disaster Reconnaissance	Sun	12:30 pm - 2:30 pm	DU PONT
201	Durability	Tue	8:00 am - 11:00 am	JEFFERSON EAST
201-D	Durability-Oversight Committee	Mon	12:30 pm - 2:00 pm	GUNSTON EAST

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
201-TG1	Aggressive Chemicals	Mon	3:00 pm - 4:00 pm	JAY
201-TG2	Physical Salt Attack	Sun	11:30 am - 12:30 pm	COLUMBIA 11
201-TG3	Alkali-Aggregate Reactivity	Sun	12:00 pm - 2:00 pm	COLUMBIA 1
201-TG4	Impact of Natural and Other Pozzolans on Durability	Sun	12:00 pm - 2:00 pm	COLUMBIA 10
207	Mass Concrete	Mon	10:30 am - 1:00 pm	COLUMBIA 1 & 2
209	Creep & Shrinkage	Mon	10:00 am - 1:00 pm	EMBASSY
209-C	Models Applicability and Uncertainty	Sun	11:30 am - 12:30 pm	DU PONT
209-D	Numerical Methods and 3D Analyses	Mon	5:00 pm - 6:30 pm	FAIRCHILD EAST
211	Proportioning	Wed	8:00 am - 11:00 am	LINCOLN EAST
211-A	Proportioning-Editorial	Tue	10:00 am - 12:00 pm	PISCATAWAY
211-E	Proportioning-Evaluation	Tue	11:30 am - 1:00 pm	COATS
211-F	Proportioning-Submittal	Tue	1:00 pm - 3:00 pm	CARDOZO
211-I	Assessing Aggregate Gradation	Tue	1:00 pm - 3:00 pm	COLUMBIA 12
211-N	Proportioning - Limestone	Tue	3:00 pm - 5:00 pm	CARDOZO
211-P	Guide for Selecting Proportions for Pumpable Concrete	Mon	3:30 pm - 5:00 pm	COATS
212	Chemical Admixtures	Mon	2:00 pm - 5:00 pm	MORGAN
213	Lightweight	Tue	1:30 pm - 3:30 pm	COLUMBIA 1
213-TG1	Lightweight - Editorial TG	Tue	11:00 am - 12:30 pm	MORGAN
214	Strength Tests M1	Mon	12:00 pm - 2:00 pm	COATS
214	Strength Tests M2	Mon	3:30 pm - 5:00 pm	FAIRCHILD WEST
215	Fatigue	Sun	2:00 pm - 4:00 pm	COLUMBIA 11
216	Fire Resistance	Mon	10:00 am - 12:00 pm	COATS
221	Aggregates	Sun	11:30 am - 1:00 pm	L'ENFANT
221-TG1	Task Group on AAR	Mon	4:30 pm - 6:30 pm	DU PONT
222	Corrosion	Tue	2:00 pm - 5:00 pm	COLUMBIA 4
223	Shrinkage Compensating	Tue	2:00 pm - 5:00 pm	HOLMEAD

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
223-TG1	Design Considerations	Tue	1:00 pm - 2:00 pm	HOLMEAD
224	Cracking	Sun	11:00 am - 12:30 pm	PISCATAWAY
225	Hydraulic Cements	Mon	1:00 pm - 5:00 pm	COLUMBIA 4
228	Nondestructive Testing	Sun	9:30 am - 12:30 pm	JEFFERSON EAST
228-B	Visual Inspection	Sun	1:00 pm - 3:00 pm	MONROE
229	Controlled Low Strength	Tue	2:00 pm - 5:00 pm	COLUMBIA 9
230	Soil Cement	Tue	8:00 am - 9:30 am	MORGAN
231	Early Age	Mon	2:00 pm - 4:00 pm	GUNSTON EAST
232	Fly Ash in Concrete	Mon	1:00 pm - 4:00 pm	COLUMBIA 11
233	Slag Cement	Tue	2:00 pm - 5:00 pm	KALORAMA
234	Silica Fume	Tue	2:00 pm - 4:30 pm	PISCATAWAY
235	Electronic Data Exchange	Mon	4:00 pm - 5:30 pm	CARDOZO
236	Material Science	Mon	4:30 pm - 5:30 pm	COLUMBIA 1 & 2
236-D	Material Science - Nanotechnology of Concrete M1	Sun	3:30 pm - 5:00 pm	COLUMBIA 1
236-D	Material Science - Nanotechnology of Concrete M2	Tue	1:00 pm - 3:00 pm	COATS
236-TG1	Advanced Analysis Techniques for Concrete	Sun	4:30 pm - 5:30 pm	INDEPENDENCE
237	Self-Consolidating Concrete	Mon	8:15 am - 11:00 am	LINCOLN EAST
237-TG1	Self-Consolidating Concrete Task Group	Sun	12:00 pm - 4:30 pm	COLUMBIA 9
238	Workability of Fresh Concrete	Tue	8:00 am - 10:00 am	PISCATAWAY
239	Ultra-High Performance Concrete	Mon	3:30 pm - 5:30 pm	INDEPENDENCE
239-A	Emerging Technology Report	Mon	1:00 pm - 3:00 pm	DU PONT
240	Natural Pozzolans	Mon	10:00 am - 1:00 pm	JAY
301	Specifications M1	Sat	1:00 pm - 5:00 pm	COLUMBIA 9
301	Specifications M2	Sun	8:30 am - 11:30 am	LINCOLN WEST
301	Specifications M3	Sun	12:30 pm - 5:30 pm	JEFFERSON WEST
301	Specifications M4	Mon	12:30 pm - 6:00 pm	MONROE

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
301-A	Spec-Gen Req, Definitions, & Tolerances	Mon	8:30 am - 12:00 pm	NORTHWEST
301-B	Spec-Formwork & Reinforcement	Sun	12:30 pm - 4:30 pm	INDEPENDENCE
301-C	Spec-Placing Consolidating & Curing	Sun	1:00 pm - 5:00 pm	GUNSTON EAST
301-D	Spec-Lightweight & Massive Concrete	Sun	1:00 pm - 5:00 pm	NORTHWEST
301-E	Spec-Post-Tensioned Concrete	Sun	10:00 am - 12:00 pm	COATS
301-F	Spec-Precast Concrete Panels	Mon	9:00 am - 12:00 pm	HOLMEAD
301-G	Spec-Shrink Comp Conc & Ind Floor Slabs	Sun	1:00 pm - 5:00 pm	GUNSTON WEST
301-H	Spec-Tilt-Up Constr & Arch Conc	Sun	1:00 pm - 2:00 pm	COLUMBIA 3
301-SC	Spec-Steering Committee	Sun	7:00 am - 8:15 am	MONROE
302	Floor Construction	Mon	8:30 am - 1:00 pm	INTERNATIONAL BALLROOM CENTER
303	Architectural CIP	Wed	8:30 am - 10:30 am	L'ENFANT
304	Measuring/Mix/Trans/Placing	Mon	4:00 pm - 5:30 pm	COLUMBIA 11
305	Hot Weather	Sun	2:00 pm - 4:00 pm	COATS
306	Cold Weather	Tue	8:30 am - 11:30 am	COLUMBIA 4
307	Chimneys	Mon	2:00 pm - 5:00 pm	L'ENFANT
308	Curing	Wed	10:00 am - 1:00 pm	MORGAN
308-A	Curing-Guide	Wed	8:00 am - 10:00 am	MORGAN
308-B	Curing-Specifications	Tue	4:00 pm - 5:30 pm	DU PONT
309	Consolidation	Sun	4:00 pm - 5:30 pm	DU PONT
310	Decorative Concrete	Sun	3:00 pm - 5:30 pm	COLUMBIA 4
310/308-TG2	Curing Decorative Concrete Joint TG	Sun	2:00 pm - 3:00 pm	COLUMBIA 10
310-J	Polished Finishes	Tue	10:00 am - 11:30 am	COATS
311	Inspection	Tue	12:30 pm - 2:30 pm	JAY
314	Simplified Design Buildings	Sun	8:30 am - 10:00 am	MONROE

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
315	Detailing	Sun	2:00 pm - 5:00 pm	JAY
318	Building Code	Tue	8:00 am - 12:30 pm	JEFFERSON WEST
318-A	General Concrete Constr	Wed	8:00 am - 12:30 pm	COLUMBIA 2
318-B	Anchorage & Reinforcement	Tue	1:30 pm - 6:00 pm	EMBASSY
318-C	Serviceability/Safety	Tue	1:30 pm - 6:00 pm	FAIRCHILD EAST
318-D	Members	Wed	8:00 am - 12:30 pm	COLUMBIA 1
318-E	Section & Member Strength	Tue	1:30 pm - 6:00 pm	FAIRCHILD WEST
318-F	Foundations	Tue	3:00 pm - 6:00 pm	COATS
318-G	Precast & Prestressed	Tue	1:30 pm - 6:00 pm	GUNSTON EAST
318-H	Seismic Provisions	Wed	8:00 am - 12:30 pm	COLUMBIA 3
318-J	Joints & Connections	Wed	8:00 am - 12:30 pm	COLUMBIA 4
318-L	International Liaison	Mon	10:00 am - 11:30 am	KALORAMA
318-M	Metrication	Tue	1:30 pm - 6:00 pm	JEFFERSON WEST
318-R	High Strength Reinforcement	Wed	8:00 am - 12:30 pm	KALORAMA
318-S	Spanish Translation	Mon	11:00 am - 12:30 pm	L'ENFANT
325	Pavements	Tue	3:30 pm - 5:30 pm	COLUMBIA 3
325-A	Pavements-Design	Tue	9:00 am - 10:00 am	COLUMBIA 3
325-C	Pavements-Prestressed and Precast	Tue	10:30 am - 12:00 pm	COLUMBIA 3
325-D	Proportioning for Pavements	Tue	1:00 pm - 3:00 pm	MORGAN
325-E	Pavements-Design	Tue	2:00 pm - 3:30 pm	COLUMBIA 3
327	RCC Pavements	Tue	11:00 am - 1:00 pm	COLUMBIA 12
329	Perf. Ready Mixed	Wed	9:30 am - 11:30 am	LINCOLN WEST
330	Parking Lots & Site Paving	Wed	8:00 am - 11:30 am	EMBASSY
332	Residential Concrete	Tue	1:30 pm - 5:00 pm	LINCOLN EAST
332-B	Conc Mtrls and Plcmnt	Tue	9:00 am - 10:30 am	L'ENFANT
332-D	Residential Conc-Footings & Foundation Walls	Tue	9:00 am - 10:30 am	KALORAMA

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
332-E	Residential Concrete-Above Grade Walls	Tue	10:30 am - 12:00 pm	KALORAMA
332-F	Residential Concrete-Slabs	Tue	10:30 am - 12:00 pm	L'ENFANT
334	Shells	Mon	5:00 pm - 6:00 pm	L'ENFANT
335	Composite Hybrid	Sun	11:30 am - 1:00 pm	LINCOLN WEST
336	Footings	Sun	1:00 pm - 5:00 pm	MORGAN
341	Earthquake Resistant Bridges	Sun	3:00 pm - 5:00 pm	MONROE
341-A	Equake Res Brdgs-Columns	Sun	9:30 am - 11:00 am	INDEPENDENCE
341-B	Equake Res Brdgs-Pier Walls	Sun	8:00 am - 9:30 am	JEFFERSON EAST
341-C	Equake Res Brdgs-Retrofit	Sun	1:30 pm - 3:00 pm	COLUMBIA 2
341-D	Perf Based Seismic Design	Sun	11:00 am - 12:30 pm	INDEPENDENCE
342	Bridge Evaluation	Sun	8:30 am - 10:00 am	GUNSTON WEST
343	Bridge Design	Mon	10:00 am - 12:00 pm	JEFFERSON
343-A	Design	Sun	11:00 am - 12:00 pm	KALORAMA
343-B	Bridge Deck	Mon	8:15 am - 9:00 am	MORGAN
343-G	Editorial	Sun	10:00 am - 11:00 am	KALORAMA
343-H	Detailing and Constructability	Mon	12:00 pm - 1:00 pm	COLUMBIA 11
345	Bridge Construction	Sun	1:30 pm - 3:30 pm	FAIRCHILD EAST
346	CIP Pipe	Mon	1:30 pm - 3:00 pm	NORTHWEST
347	Formwork M1	Sat	2:00 pm - 9:00 pm	COLUMBIA 1
347	Formwork M2	Sun	8:30 am - 12:30 pm	JEFFERSON WEST
348	Safety	Mon	2:00 pm - 3:30 pm	COATS
349	Nuclear Structures	Tue	1:00 pm - 5:00 pm	JEFFERSON EAST
349/359	ACI 349 and ACI 359 Joint Committee TG	Tue	10:00 am - 11:00 am	LINCOLN WEST
349-AB	Nuclear Structures-Design & Materials	Mon	1:00 pm - 4:30 pm	COLUMBIA 1 & 2
349-C	Nuclear Str-Anchorage	Mon	7:30 am - 9:30 am	KALORAMA
350	Environmental Structures	Wed	8:00 am - 5:00 pm	JEFFERSON

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
350-A	Env Str-General & Concrete	Tue	11:30 am - 5:00 pm	GUNSTON WEST
350-B	Env Str-Durability	Mon	8:30 am - 1:00 pm	FAIRCHILD EAST
350-C	Env Str-Reinf & Devel	Sun	8:30 am - 11:30 am	FAIRCHILD WEST
350-D	Env Str-Structural	Mon	8:30 am - 6:30 pm	PISCATAWAY
350-E	Env Str-Precast/Prestressed	Sun	1:00 pm - 5:00 pm	FAIRCHILD WEST
350-F	Env Str-Seismic	Tue	8:30 am - 3:30 pm	NORTHWEST
350-G&K	Env Str-Tightness Testing/Haz Mat	Tue	8:30 am - 11:30 am	COLUMBIA 2
350-H	Env Str-Editorial	Mon	12:30 pm - 2:00 pm	L'ENFANT
350-J	Env Str-Education	Mon	1:00 pm - 3:00 pm	FAIRCHILD EAST
350-L	Env Str-Specification	Tue	4:00 pm - 6:00 pm	JAY
350-SC	Env Str-Steering Comm	Sun	11:30 am - 1:00 pm	FAIRCHILD WEST
351	Equip Foundations	Tue	2:00 pm - 4:00 pm	DU PONT
351-C	Equip Fdns - Dynamic Fdns	Mon	3:00 pm - 5:00 pm	NORTHWEST
351-D	Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures	Mon	1:00 pm - 3:00 pm	KALORAMA
351-TG1	Spec for Cementitious Grouting Between Foundations & Equipment Bases	Mon	5:00 pm - 6:30 pm	COATS
352	Joints	Sun	12:30 pm - 3:30 pm	PISCATAWAY
355	Anchorage	Sun	1:30 pm - 5:00 pm	JEFFERSON EAST
355-TG	Anchorage TG	Mon	8:30 am - 11:00 am	COLUMBIA 4
357	Offshore & Marine	Tue	9:30 am - 12:30 pm	JAY
360	Slabs on Ground	Mon	2:00 pm - 6:30 pm	INTERNATIONAL BALLROOM CENTER
362	Parking Structures	Mon	1:00 pm - 5:00 pm	LINCOLN EAST
362-A	Updating Guide to Structural Maintenance of Parking Structures Documents	Sun	1:00 pm - 4:00 pm	L'ENFANT
363	High-Strength	Sun	2:30 pm - 5:00 pm	COLUMBIA 12
363-A	High-Strength Lightweight Concrete	Tue	3:30 pm - 5:00 pm	NORTHWEST

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
364	Rehabilitation	Mon	1:00 pm - 3:00 pm	COLUMBIA 10
364-A	Editorial Subcommittee	Mon	5:00 pm - 6:30 pm	COLUMBIA 4
364-TG1	Rehab Guide	Mon	11:00 am - 12:00 pm	MONROE
365	Service Life	Mon	9:00 am - 11:00 am	MORGAN
369	Seismic Rehab M1 Part 1	Sun	10:00 am - 12:00 pm	GUNSTON WEST
369	Seismic Rehab M1 Part 2	Sun	1:00 pm - 4:00 pm	EMBASSY
369	Seismic Rehab M2	Mon	2:00 pm - 6:00 pm	GUNSTON WEST
370	Blast and Impact Load Effects	Sun	3:00 pm - 5:00 pm	COLUMBIA 2
371	Elevated Tanks with Concrete Pedestals	Mon	3:00 pm - 5:00 pm	FAIRCHILD EAST
372	Tanks Wrapped Wire/Strand	Tue	3:00 pm - 5:00 pm	MORGAN
374	Seismic Design M1	Tue	7:00 am - 9:00 am	COLUMBIA 1
374	Seismic Design M2	Tue	11:00 am - 1:30 pm	COLUMBIA 1
375	Design for Wind Loads	Mon	1:00 pm - 3:30 pm	FAIRCHILD WEST
376	RLG Containment Structures	Mon	1:00 pm - 4:00 pm	CARDOZO
376-1	Steering Subcommittee	Sun	10:30 am - 12:00 pm	COLUMBIA 9
376-A	Code, Education & Publication Subcommittee	Mon	10:00 am - 12:00 pm	DU PONT
376-B	Materials Subcommittee	Sun	1:00 pm - 3:00 pm	CARDOZO
376-C	Analysis Subcommittee	Sun	3:00 pm - 5:00 pm	COLUMBIA 10
376-D	Design & Construction Subcommittee	Mon	8:00 am - 10:00 am	JAY
377-FM	Performance-Based Structural Integrity & Resilience of Concrete Structures	Mon	10:00 am - 12:30 pm	CARDOZO
408	Development and Splicing	Sun	8:30 am - 11:30 am	COLUMBIA 11
408-A	Mech Splices	Sun	8:00 am - 8:30 am	COLUMBIA 11
421	Reinf Slabs	Sun	10:00 am - 1:00 pm	MONROE
423	Prestressed	Mon	8:30 am - 12:30 pm	COLUMBIA 10
423/445	Adhoc Grp on Shear in Prestress Conc	Sun	3:30 pm - 5:30 pm	PISCATAWAY

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
423-D	Bond & Dev Pretnsn Membrs	Sun	4:00 pm - 5:00 pm	COATS
423-E	Prestress-Losses	Sun	11:00 am - 1:00 pm	HOLMEAD
423-F	Sustainable Prestressed Concrete	Sun	11:30 am - 1:30 pm	COLUMBIA 2
435	Deflection	Mon	3:00 pm - 6:00 pm	HOLMEAD
437	Strength Evaluation	Mon	10:30 am - 12:30 pm	COLUMBIA 9
439	Steel Reinforcement	Mon	8:30 am - 10:30 am	COLUMBIA 1 & 2
439-A	Steel Reinforcement-Wire	Sun	3:30 pm - 5:00 pm	FAIRCHILD EAST
440	Fiber-Reinforced Polymer	Tue	8:00 am - 11:00 am	INTERNATIONAL BALLROOM CENTER
440-E	FRP-Prof Education	Sun	1:30 pm - 3:00 pm	LINCOLN EAST
440-F	FRP-Repair Strengthening	Mon	3:00 pm - 6:00 pm	INTERNATIONAL BALLROOM WEST
440-H	FRP-Reinforced Concrete	Mon	1:00 pm - 3:00 pm	JEFFERSON EAST
440-J	FRP Stay-in-Place Forms	Mon	10:00 am - 11:30 am	COLUMBIA 12
440-K	FRP-Material Characteristics	Sun	8:30 am - 11:30 am	LINCOLN EAST
440-L	FRP-Durability	Sun	3:00 pm - 5:00 pm	LINCOLN EAST
440-M	FRP-Repair of Masonry Str	Mon	8:30 am - 10:00 am	JEFFERSON
440-TG	Repair Construction Specification	Sun	11:30 am - 1:30 pm	LINCOLN EAST
441	Columns	Mon	11:30 am - 2:00 pm	COLUMBIA 12
441-A	High-Strength Conc	Mon	8:00 am - 9:00 am	HOLMEAD
441-B	Lateral Reinf	Sun	11:30 am - 12:30 pm	GUNSTON EAST
444	Structural Health Monitoring and Instrumentation	Tue	8:00 am - 10:00 am	INDEPENDENCE
445	Shear & Torsion	Mon	2:00 pm - 6:00 pm	LINCOLN WEST
445-A	Shear & Torsion-Strut & Tie	Sun	10:30 am - 1:30 pm	FAIRCHILD EAST
445-B	Shear & Torsn-Seismic Shear	Sun	8:00 am - 10:00 am	JAY
445-C	Shear & Torsn-Punching Shear	Sun	1:00 pm - 3:00 pm	HOLMEAD
445-D	Shear & Torsn-Database	Sun	10:00 am - 11:30 am	COLUMBIA 3

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
445-E	Shear & Torsn-SOA Torsion	Sun	12:30 pm - 2:00 pm	COATS
446	Fracture Mechanics	Mon	3:30 pm - 5:00 pm	COLUMBIA 10
447	Finite Element Analysis M1	Mon	11:00 am - 1:30 pm	COLUMBIA 3
447-TG	Finite Element Analysis M2	Mon	5:00 pm - 6:30 pm	KALORAMA
506	Shotcreting	Tue	8:30 am - 11:30 am	LINCOLN EAST
506-A	Shotcreting-Evaluation	Mon	1:30 pm - 3:00 pm	HOLMEAD
506-B	Shotcreting-Fiber-Reinforced	Sun	1:30 pm - 2:30 pm	KALORAMA
506-C	Shotcreting-Guide	Mon	8:30 am - 10:30 am	GUNSTON EAST
506-E	Shotcreting-Specifications	Mon	10:30 am - 12:30 pm	GUNSTON EAST
506-F	Shotcreting-Underground	Mon	4:30 pm - 5:30 pm	EMBASSY
506-G	Qualifications for Projects	Mon	3:00 pm - 4:30 pm	EMBASSY
515	Protective Systems	Tue	9:00 am - 11:00 am	COLUMBIA 1
522	Pervious Concrete	Tue	8:00 am - 11:00 am	COLUMBIA 12
523	Cellular Concrete	Tue	8:30 am - 10:30 am	COLUMBIA 10
524	Plastering	Mon	8:30 am - 10:00 am	EMBASSY
526	Autoclaved Aerated Concrete	Tue	10:30 am - 1:00 pm	COLUMBIA 10
533	Precast Panels	Mon	8:30 am - 10:00 am	COLUMBIA 12
543	Piles	Mon	8:30 am - 11:30 am	FAIRCHILD WEST
544	Fiber-Reinforced Concrete	Tue	3:00 pm - 5:30 pm	LINCOLN WEST
544-A	FRC-Production & Applications	Mon	11:30 am - 1:00 pm	FAIRCHILD WEST
544-B	FRC-Education	Tue	8:00 am - 10:00 am	LINCOLN WEST
544-C	FRC-Testing	Tue	1:30 pm - 3:00 pm	LINCOLN WEST
544-D	FRC-Structural Uses	Tue	11:30 am - 1:00 pm	MONROE
544-E	FRC-Mechanical Properties	Mon	5:00 pm - 6:30 pm	MORGAN
544-F	FRC-Durability	Tue	10:30 am - 12:00 pm	CARDOZO
544-SC	FRC-Steering Committee	Mon	8:30 am - 10:00 am	DU PONT

Numerical Committee Meeting Listing

Program changes are available at ACI Registration in COLUMBIA 5-8

Code	Committee	Day	Time	Room Name
546	Repair	Mon	8:30 am - 10:30 am	COLUMBIA 9
546-C	Repair-Guide	Sun	9:00 am - 10:00 am	COLUMBIA 10
548	Polymers	Tue	8:30 am - 11:30 am	DU PONT
548-A	Polymers-Overlays	Mon	8:15 am - 11:00 am	INDEPENDENCE
548-B	Polymers-Adhesives	Mon	3:00 pm - 5:00 pm	KALORAMA
548-C	Structural Polymer Design	Mon	11:00 am - 12:30 pm	MORGAN
549	Thin Reinforced	Sun	11:00 am - 1:00 pm	NORTHWEST
550	Precast Structures	Sun	3:00 pm - 5:00 pm	CARDOZO
551	Tilt-Up	Sun	9:00 am - 12:00 pm	EMBASSY
552	Cementitious Grouting	Tue	4:00 pm - 5:30 pm	L'ENFANT
555	Recycled	Mon	5:00 pm - 6:30 pm	COLUMBIA 12
560	Design & Constr ICFs	Tue	8:30 am - 10:30 am	CARDOZO
562	Eval, Repair & Rehab	Sun	1:00 pm - 5:00 pm	LINCOLN WEST
562-A	General	Sat	1:00 pm - 4:00 pm	COLUMBIA 2
562-B	Loads	Sun	8:00 am - 10:00 am	COATS
562-C	Evaluation M1	Sat	4:00 pm - 5:00 pm	COLUMBIA 2
562-C	Evaluation M2	Sat	6:00 pm - 8:00 pm	COLUMBIA 2
562-D	Design M1	Sat	10:00 am - 12:00 pm	COLUMBIA 3
562-D	Design M2	Sat	1:00 pm - 2:00 pm	COLUMBIA 3
562-E	Education	Mon	8:00 am - 10:00 am	COATS
562-F	Durability	Sat	6:00 pm - 9:00 pm	CARDOZO
563	Specs for Repair of Struct Conc in Bldgs	Tue	1:00 pm - 5:00 pm	COLUMBIA 10

JOIN A COMMITTEE!

ACI committees are recognized for providing widely accepted standards of practice for nearly every facet of the concrete industry thanks to the participation of professionals across the concrete industry.

ACI's technical committees are classified as follows:
100s – General
200s – Materials
300s – Design and Construction
400s – Concrete Reinforcement and Structural Analysis
500s – Specialized Applications and Repair

Help shape the codes and standards of the concrete industry and JOIN A COMMITTEE!

If you are interested in joining a committee, visit http://www.concrete.org/Committees/JoinACommittee.aspx and fill out the online application or ask the committee Chair for an application!

Event Details

Program changes are available at ACI Registration in COLUMBIA 5-8

Sunday, October 26, 2014 5:00 am and 6:00 am

Run/Walk Meet-Up—TERRACE-LEVEL LOBBY ENTRANCE

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. Suggested routes will be available. All are welcome! *Please consult with your physician to determine if you are fit for this type of activity. Run/walk at your own risk.

Sunday, October 26, 2014 6:00 am – 6:45 am

Morning Yoga Class—INTERNATIONAL TERRACE EAST

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 yoga mats will be provided. *Please consult with your physician to determine if you are fit for this type of activity.

Sunday, October 26, 2014

Guest Hospitality—INTERNATIONAL TERRACE WEST
7:00 am – 10:00 am

Coffee and tea will be available to registered guests each morning (Sunday-Wednesday). All registered guests will receive four $5 vouchers behind their name badge to use at the Coffee Bean & Tea Leaf or the District Line Restaurant between 7:00 am and 10:00 am. Vouchers will only be valid for the day specified, cannot be redeemed for cash, and may only be used by registered ACI Convention guests.

Guest Overview— INTERNATIONAL TERRACE WEST
8:00 am – 9:00 am

Acquaint yourself with the week ahead and get a preview of things to do in Kansas City, MO, and Denver, CO, the locations for the next two ACI Conventions.

Guest Lounge— INTERNATIONAL TERRACE WEST
10:00 am – 5:00 pm

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

* = Guest-only event

Sunday, October 26, 2014 8:00 am – 9:00 am

Convention Orientation Breakfast—COLUMBIA 1 & 2

Sponsored by the ACI Convention Committee

Speaker: William J. Lyons III
Executive Director
The Euclid Chemical Company
New Windsor, NY

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

Sunday, October 26, 2014 10:00 am – 11:30 am

ACI International Forum—GEORGETOWN EAST

Chaired by ACI Vice President Sharon L. Wood

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. Speakers include: Ephraim Senbetta, Ethiopia Chapter – ACI; Dr. Asad-ur-Rehman Khan, Pakistan Chapter – ACI; Roberto Realfonzo, Italy Chapter – ACI; Arturo Gaytan Covarrubias, Central & Southern Mexico Chapter – ACI; Hiroshi Mutsuyoshi, JCI; Dr. Surendra Manjrekar and Ishita Manjrekar, India Chapter – ACI; Mark Alexander, RILEM; Robert Taylor, Manitoba Chapter – ACI; and Sun Qinxian, China Concrete & Cement Products Association; and Jae-Hoon Lee, KCI.

Sunday, October 26, 2014 10:30 am – 4:00 pm

Student Egg Protection Device and Fresh Mortar Workability Competitions—COLUMBIA 5-8

Sponsored by ACI Committees S801, Student Activities, and 238, Workability of Fresh Concrete

Competitions Co-Moderators: Walter H. Flood IV
Manager – Engineer
Flood Testing Labs, Inc.
Chicago, IL

Jiong Hu
Assistant Professor
Texas State University
San Marcos, TX

The students will be challenged with two competitions at this convention. The ever-popular Egg Protection Device (EPD) competition will again be held; however, instead of protecting their eggs from rising sea levels, this year students will strive to protect their eggs from the threat of impending alien aerial bombardment. Success will require knowledge of durable concrete design as well as reinforcing cage design and fabrication. EPDs will be submitted to everincreasing impact loading and the student's mixture designs will be checked for durability with bulk resistivity testing.

Beginning at 12:00 pm, students will also have the opportunity to create a fresh mortar mixture in front of their peers. Students will transport their selected materials to the competition site and, under the judgmental gaze of their hostile peers, mix their ideal mixture. The mortar mixtures will be ranked on their ability to flow through a tortuous ACI logo mold as well as their mixture's ability to remain free of segregation. Come see this actual example of wet concrete at the ACI Convention!

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

Sunday, October 26, 2014 11:30 am – 1:30 pm

✓*International Lunch—INTERNATIONAL BALLROOM WEST*
$30.00 U.S. per person

Sponsored by the ACI International Advisory Committee
Speaker: Dr. Man-Chung Tang
Chairman of the Board
TY Lin International Group
Flushing, NY

Topic: Recent Concrete Bridges in China

Convention attendees are invited to add the International Lunch to their convention schedule. Lunch will be served and Dr. Man-Chung Tang will give a special presentation highlighting recent concrete bridges in China. China has built a large number of concrete bridges in the last 40 years: girder bridges, cable-stayed bridges, extradosed bridges, arch bridges, and even suspension bridges in concrete. In China, concrete bridges are less expensive than steel bridges. Tang is the Chairman of the Board of T.Y. Lin International, a consulting engineering firm with headquarters in San Francisco. He received his Doctor of Engineering degree in 1965 from the Technical University Darmstadt, Darmstadt, Germany, and has since been working as a Structural Engineer. He is a member of the U.S. National Academy of Engineering and a foreign member of the Chinese Academy of Engineering.

PREREGISTRATION IS REQUIRED TO ATTEND*. This lunch is expected to sell out. A very limited number of tickets will be available for purchase on-site until Saturday, October 25 at 5pm based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.*
✓ = **Separate fee required**

Sunday, October 26, 2014 12:30 pm – 4:00 pm

✓*First Ladies Tour—DEPART TERRACE-LEVEL LOBBY ENTRANCE*
$85.00 U.S. per person

On this unique tour, guests will receive an exclusive look into the lives of U.S. First Ladies, discuss changes in White House décor and First Ladies' tastes, hear stories of scandal and heroism, and learn how the First Ladies influenced their husbands. The tour begins by The White House lawn, where guests will learn about the first garden on the grounds—Eleanor Roosevelt's victory garden—in addition to the current First Lady's garden. Next, tour the First Ladies exhibit in the National Museum of American History. The tour concludes at the Franklin Delano Roosevelt Memorial. Learn how the First Ladies inspired a country and continue to inspire generations to come.

Tours are nonrefundable. *All tours depart from the Lobby Entrance on the Terrace Level.*
✓ = **Separate fee required**

Aggregate Optimization and Packing—GEORGETOWN EAST

Sponsored by ACI Committees 211, Proportioning Concrete Mixtures; 236, Material Science of Concrete; and 238, Workability of Fresh Concrete

Session Co-Moderators:

Eric P. Koehler
Director of Quality
Titan America
Miami, FL

Konstantin Sobolev
Associate Professor
University of Wisconsin – Milwaukee
Milwaukee, WI

The mechanical properties of portland cement concrete, such as mechanical strength, modulus of elasticity, creep, and shrinkage, greatly depend on the properties of their main constituent: the aggregates. Packing density, compaction degree, particle size, and spatial distribution of aggregates affect the macromechanical behavior of concrete. This session will discuss how better aggregates' packing and optimal distribution can improve the performance of concrete.

By attending this session, attendees will be able to:

1. Explain how aggregate characteristics and packing density affect concrete performance;
2. Measure aggregate packing density;
3. Optimize aggregate blends for improved concrete performance; and
4. Specify aggregates for use in concrete.

What Aggregate Packing is Optimal?—1:00 pm

Eric P. Koehler, Director of Quality, Titan America, Miami, FL

Development and Implementation of Aggregate Grading for Pavements and Structures—1:20 pm

Tyler Ley, Assistant Professor, Oklahoma State University, Stillwater, OK; and **Bruce W. Russell, Ashkan Ghaeezadeh**, and **Daniel R. Cook**, Oklahoma State University

Aggregate Optimization for Concrete Mixtures with Low Cement Factor—1:40 pm

Mohamadreza Moini, MS Student, University of Wisconsin – Milwaukee, Milwaukee, WI; and **Ismael Flores-Vivian, Konstantin Sobolev**, and **Scott Muzenski,** University of Wisconsin – Milwaukee

3-D Aggregate Shape Analysis and Packing Model—2:00 pm

Edward J. Garboczi, Fellow, Applied Chemicals and Materials, National Institute of Standards and Technology, Boulder, CO; **Jeffrey W. Bullard**, National Institute of Standards and Technology; **Yang Lu**, Boise State University; and **Zhiwei Qian**, Delft Technical University

Particle Packing from a Rock's Perspective—2:20 pm

James M. Shilstone, Jr., Concrete Technologist, Command Alkon, Inc., Frisco, TX

2 AIA/CES LU

Lightweight Self-Consolidating Concrete Research and Applications—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committees 213, Lightweight Aggregate and Concrete, and 237, Self-Consolidating Concrete

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

The objective of this session is to update the concrete community on the current research and applications of lightweight self-consolidating concrete. The information to be presented will allow the use of self-consolidating concrete in applications not currently used in some states.
By attending this session, attendees will be able to:
1. Demonstrate how to evaluate the performance of different types of lightweight self-consolidating concrete (LWSCC);
2. Recognize the research and development on LWSCC;
3. Explain the effect of mixture composition, moist curing, pre-saturation regime, and type of lightweight aggregates on engineering properties of LWSCC; and
4. Appreciate the potential of LWSCC in construction with examples of real applications.

LWSCC in Virginia—1:00 pm

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

Performances of LWSCC Made with Different Type of Industrial Lightweight Aggregates—1:15 pm

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

Comparison of Fresh, Mechanical, and Durability Properties of Lightweight Self-Consolidating Concretes with Three Commercial Aggregates—1:30 pm

Abdurrahmaan Lotfy, Lafarge Regional Technical Manager, Lafarge, Toronto, ON, Canada

Lightweight SCC for Sustainable Infrastructure Construction—1:45 pm

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

Shear Strength of Semi-Lightweight Self-Consolidating Concrete Beams—1:45 pm

Assem Adel Abdel Aal Hassan, Faculty of Engineering and Applied Science, Memorial University of Newfoundland, St. John's, NL, Canada

2 AIA/CES LU

Structural Health Monitoring of Concrete Structures (Durability), Part 1 of 6—CABINET

Sponsored by ACI Committees 444, Structural Health Monitoring and Instrumentation, 209, Creep and Shrinkage in Concrete; 222, Corrosion of Metals in Concrete; 348, Structural Reliability and Safety; 365, Service Life Prediction; 435, Deflection of Concrete Building Structures; and Joint ACI-ASCE Committees 343, Concrete Bridge Design, and 441, Reinforced Concrete Columns.

Session Co-Moderators:

Hani H. Nassif
Professor
Rutgers, The State University of New Jersey
Piscataway, NJ

Nakin Suksawang
Assistant Professor
Florida Institute of Technology
Melbourne, FL

Structural health monitoring (SHM) provides a significant advantage in developing a comprehensive and realistic approach for the qualitative assessment and evaluation of concrete structures. The information obtained from monitoring can help engineers, owners, contractors, and concrete suppliers improve their maintenance activities, increase safety, verify hypotheses, reduce uncertainty, and widen the knowledge concerning the structure being monitored.

The aims of this symposium are: 1) to pull together knowledge on the assessment of concrete durability and serviceability using SHM technologies; and 2) to present new development in SHM technologies, their performances, and their applications. Parts 1(a), (b), and (c) will cover various aspects of concrete durability such as corrosion monitoring, service life prediction, and the monitoring of environmental degradation of concrete structures. Parts 2(a), (b), and (c) will cover cracking, deflection, fatigue, and serviceability limits in codes. In both parts the prognosis using SHM will be emphasized. Desired outcome: Awareness will be raised on established SHM technologies for evaluating concrete durability and serviceability. Various SHM technologies, such as traditional strain gauges and discrete fiber-optic sensors, as well other emerging technologies, such as distributed fiber-optic sensors, sensing sheets, self-sensing materials, novel algorithms for data analysis, and novel methods for prognostication and decision-making based on SHM, will be presented.

By attending this session, the attendee will be able to:

1. Recognize the advantage of SHM technologies to improve the understanding of concrete durability and serviceability;
2. Analyze the service life of concrete structures using SHM data;
3. Evaluate the materials and structural performance using SHM technologies; and
4. Understand how SHM technologies can provide early warning of degradation of concrete structures.

Field Monitoring of Corrosion Potential in Concrete Bridge Decks—1:00 pm

Chaekuk Na, Postdoctoral Associate, Rutgers, The State University of New Jersey, Piscataway, NJ; and **Hani H. Nassif** and **Adi Abu-Obeidah**, Rutgers, The State University of New Jersey

Remote Monitoring Cathodically Protected Steel Piles—1:25 pm

Rajan Sen, Professor and Jefferson Science Fellow, University of South Florida, Tampa, FL; and **Gray Mullins**, **Alberto Sagues**, **Danny Winters**, and **Julio Aguilar**, University of South Florida

Use of FBG Sensors for Measuring Creep and Shrinkage—1:50 pm

Hesham Marzouk, Professor of Civil Engineering, Ryerson University, Toronto, ON, Canada; and **Zahra Yazdizadeh**, Richmond Hill

Structural Health Monitoring of Early-Age Cracking and Pouring Stages in High-Performance Concrete Decks in Curved Steel-Girder Bridges—2:15 pm

Dan Su, Postdoctoral Associate, Rutgers, The State University of New Jersey, Piscataway, NJ; **Hani H. Nassif** and **Ye Xia**, Rutgers, The State University of New Jersey; and **William Wilson**, New Jersey Turnpike Authority

Investigation of Creep Behavior in a Continuous Prestressed Girder Bridge—2:40 pm

Ayman M. Okeil, Associate Professor, Louisiana State University, Baton Rouge, LA; and **Tanvir Hossain**, Louisiana State University

2 AIA/CES LU

Sunday, October 26, 2014 1:00 pm – 3:00 pm

Toward Sustainable Infrastructure with Fiber-Reinforced Polymer Composites, Part 1 of 2—GEORGETOWN WEST

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement, and ACI Subcommittees 440-F, FRP-Repair-Strengthening; 440-H, FRP-Reinforced Concrete; and 440-L, FRP-Durability

Session Moderator: Raafat El-Hacha
Associate Professor
University of Calgary
Calgary, AB, Canada

The use of fiber-reinforced polymer (FRP) in new construction and repair of concrete structures has been growing rapidly in recent years. FRP provides options and benefits not available using traditional materials. The promise of FRP materials lies in their high-strength, lightweight, and noncorrosive properties. ACI Committee 440 has published several guides providing recommendations for the use of FRP materials based on available test data, technical reports, and field applications. Sponsored by ACI Committee 440, this session provides a worldwide forum for researchers, civil/structural engineers, contractors, consultants, practitioners, and regulatory authorities to exchange recent advances in both research and practice and to share information, experience, and knowledge in the implementation of FRP technology.
By attending this session, attendees will be able to:
1. Learn about the wide use of FRP in new construction and repair of concrete structures;
2. Understand the design process available in several design guidelines that provides recommendations for the use of FRP materials based on available test data, technical reports, and field applications;
3. Demonstrate how to evaluate existing structures prior to strengthening/rehabilitation using FRP; and
4. Recognize examples of the types of evaluation that can be performed on existing structures.

FRP for Sustainable Precast Concrete Double Tees—1:00 pm

Sami H. Rizkalla, Distinguished Professor, North Carolina State University, Raleigh, NC; **Harry A. Gleich**, Metromont Corporation; and **Greg Lucier**, North Carolina State University

Fiber-Reinforced Cementitious Matrix Systems for Shear Strengthening of RC Beams—1:15 pm

Jeffrey S. West, Associate Professor, University of Waterloo, Waterloo, ON, Canada; and **Khaled A. Soudki** and **Rizwan Azam,** University of Waterloo

Effect of FRP Repair on the Bond Behavior of Corroded Reinforced Concrete Beams—1:30 pm
Rania Al-Hammoud, Assistant Professor, University of Minnesota Duluth, Duluth, Minnesota; and **Khaled A. Soudki** and **Timothy Topper,** University of Waterloo

FRP-Concrete Bonded Interfaces Anchored with FRP Anchors: Numerical Modeling and Parametric Studies—1:45 pm
Scott Thomas Smith, Professor, Southern Cross University, Lismore, NSW Australia; and **Huawen Zhang,** Southern Cross University

Durability Evaluation of Shear Bond Strength of Carbon FRP Laminates Using Small Plain Concrete Beams—2:00 pm
Antonio Nanni, Professor and Chair, University of Miami, Coral Gables, FL; and **Matteo Di Benedetti**, **David Mela**, and **Karim Zahra**, University of Miami

Corrosion in Reinforced Concrete Columns Wrapped with Carbon Fiber-Reinforced Polymer Sheets—2:15 pm
Mark F. Green, Professor, Queen's University, Kingston, ON, Canada; and **Brian B. Hope** and **Xuefeng Zhang**, Queen's University

Development Length of CFRP Rods Bonded to Concrete—2:30 pm
Issam E. Harik, Professor, University of Kentucky, Lexington, KY; and **Akram Rasheed Jawdhari,** University of Kentucky

Transfer and Development Lengths of Prestressed CFRP Bars in SCC—2:45 pm
Slamah Krem, Lecturer, University of Waterloo, Waterloo, ON, Canada; and **Khaled A. Soudki**, University of Waterloo

2 AIA/CES LU

Sunday, October 26, 2014 3:30 pm – 5:30 pm

✓Meridian Hill Park Walking Tour— DEPART TERRACE LEVEL LOBBY ENTRANCE FREE
Celebrating 100 Years of John J. Earley and the Earley Studio's Work—Meridian Hill Park, circa 1916
Participants will walk just over 1 mile to Meridian Hill Park, which features many works of John Earley. Meridian Hill Park is an extraordinary historic resource for its craftsmanship and the integrity of its built elements. It is one of the first projects to use exposed-aggregate concrete for architectural expression and is an outstanding accomplishment of neoclassical park design in the United States. Five different textures of scrubbed aggregate were required to be placed monolithically with each other and with structural concrete in the same place.
Credits for work in 1929: Architect: H. W. Peaslee; Architectural Sculptor: John J. Earley; Contractor: Chas H. Tompkins Co.; Owner: U.S. National Park Service.
A limited number of tickets are available for purchase at ACI Registration. ***Tours are nonrefundable.*** *All tours depart from the Lobby Entrance on the Terrace Level.*
✓ = Separate registration required

Emerging Technologies in Civil Infrastructure—INTERNATIONAL BALLROOM EAST

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

Session Co-Moderators:

David B. Stokes
Consultant
Durable Concrete LLC
Shelby, NC

Steven H. Kosmatka
Vice President of Research and Technical Services
Portland Cement Association
Skokie, IL

The goal of the ACI Foundation's Strategic Development Council (SDC) is industry-wide collaboration to address the concrete industry's technological challenges and to create a forum for the introduction and nurturing of new technologies. This session highlights issues of importance in the concrete industry and overviews of newer technologies currently or soon to be impacting the concrete industry. The presentations are by individuals who are both well-versed in the specific issue or technology and directly involved in their implementation and further development.

By attending this session, attendees will be able to:

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

NRC Participation and Perspectives on Codes and Standards for Nuclear Construction—3:30 pm

Carol E. Moyer, Team Leader, International Programs, U.S. Nuclear Regulatory Commission, Washington, DC

An Update on EPRI Concrete Research—4:00 pm

Kenneth F. Barry, Technical Executive, EPRI, Charlotte, NC

Wireless Assessment of Concrete Damage from ASR Growth Using Acoustic Emission—4:30 pm

Carl J. Larosche, Principal, Wiss, Janney, Elstner Associates, Inc., Austin, TX; **Paul H. Ziehl** and **Mohamed El-Batanouny**, University of South Carolina; **Aaron K. Larosche**, Whitlock Dalrymple Poston & Associates; and **Jeremiah Fasl**, Wiss, Janney, Elstner Associates, Inc.

Taking the ACI Code into the 21st Century—5:00 pm

Mark J. Perniconi, Executive Director, Charles Pankow Foundation, Vancouver, WA

2 AIA/CES LU

James K. Wight: A Tribute from His Students and Colleagues, Part 1 of 3—GEORGETOWN EAST

Sponsored by ACI Committees 318, Structural Concrete Building Code, and Joint ACI-ASCE Committee 352, Joints and Connections in Monolithic Concrete Structures

Session Co-Moderators:

Gustavo J. Parra-Montesinos
C.K. Wang Professor of Structural Engineering
University of Wisconsin – Madison
Madison, WI

Mary Beth D. Hueste
Professor
Texas A&M University
College Station, TX

This session is in honor of Professor James K. Wight, ACI Past President, who has served as a Professor of structural engineering at the University of Michigan for over 40 years. This session is aimed at disseminating information related to behavior and structural applications of fiber-reinforced concrete and fiber-reinforced polymer composites.

By attending this session, attendees will be able to:

1. Gain knowledge on the influence of fiber reinforcement on tensile, bending, and compression behavior of concrete;
2. Gain knowledge on latest techniques for simulating the tensile behavior of fiber-reinforced concrete;
3. Understand how the use of fiber-reinforced concrete can improve behavior of reinforced concrete joints; and
4. Gain knowledge on various testing techniques for and structural repair applications of fiber-reinforced polymer materials.

Modeling the Effects of Fiber Dispersion on FRC Cracking Behavior—3:30 pm

John E. Bolander, Professor, University of California, Davis, Davis, CA; and **Jingu Kang**, University of California, Davis

Understanding Shear Behavior through James K. Wight's Research—3:50 pm

Rémy D. Lequesne, Assistant Professor, University of Kansas, Lawrence, KS; and **Gustavo J. Parra-Montesinos**, University of Wisconsin – Madison

How Can RC Joints Benefit from Fiber Addition?—4:10 pm

Antoine E. Naaman, Emeritus Professor, University of Michigan, Ann Arbor, MI

Development of Test Methods and Material Specifications for Fiber-Reinforced Plastic Composite Concrete Reinforcements—4:30 pm

Russell Gentry, Associate Professor, Georgia Institute of Technology, Atlanta, GA; and **Charles E. Bakis**, Pennsylvania State University

Recent Advances in FRP Products for Repair of Infrastructure—4:50 pm

Mohammad R. Ehsani, Professor Emeritus, University of Arizona, President, QuakeWrap Inc., Tucson, AZ

2 AIA/CES LU

Structural Health Monitoring of Concrete Structures (Durability), Part 2 of 6—CABINET

Sponsored by ACI Committees 444, Structural Health Monitoring and Instrumentation; 209, Creep and Shrinkage in Concrete; 222, Corrosion of Metals in Concrete; 348, Structural Reliability and Safety; 365, Service Life Prediction; 435, Deflection of Concrete Building Structures; and Joint ACI-ASCE Committees 343, Concrete Bridge Design, and 441, Reinforced Concrete Columns.

Session Co-Moderators:

John S. Popovics
Associate Professor
University of Illinois
Urbana, IL

Julie Ann Hartell
Assistant Professor
Oklahoma State University
Stillwater, OK

The session description and learning objectives for this session may be found in the Part 1 listing; see page 74.

Ultrasonic and Acoustic Emission for Assessing Sulfate-Damaged Concrete—3:30 pm

Julie Ann Hartell, Assistant Professor, Oklahoma State University, Stillwater, OK; and **Andrew J. Boyd,** McGill University

Fiber-Optics to Detect Corrosion Damage in Reinforced Concrete—3:50 pm

Matthew Davis, Graduate Student, Queen's University, Kingston, ON, Canada; and **Neil Hoult**, Queen's University

Acoustic Emission for Assessment of Alkali-Silica Reaction in Concrete Structures—4:10 pm

Mohamed El-Batanouny, Postdoctoral Fellow, University of South Carolina, Columbia, SC; **Carl J. Larosche** and **Jeremiah D. Fasl,** Wiss, Janney, Elstner Associates, Inc.; and **Paul H. Ziehl** and **Marwa Abdelrahman**, University of South Carolina

Portable Infrared Thermal Monitoring System for Nondestructive Evaluation of In-Situ Concrete Bridge Deck—4:30 pm

Fuad Khan, Doctoral Student, Drexel University, Philadelphia, PA; and **Mustafa Furkan**, **Shi Ye**, **Qiang Mao**, **Matteo Mazzotti,** and **Ivan Bartoli**, Drexel University

Application of Maturity Method to Assess the Compressive Strength of Cast-in-Place Concrete at Early Ages—4:50 pm

Adi Abu-Obeida, Research Assistant, Rutgers, The State University of New Jersey, Piscataway, NJ; **Hani H. Nassif**, and **Chaekuk Na**, Rutgers, The State University of New Jersey; and **W. Scott Johnsen**, Greenman-Pedersen, Inc.

Characterization of Delamination Owing to Corrosion Processes in Concrete Elements Using Scanning Ultrasound—5:10 pm
Suyun Ham, Graduate Research Assistant, University of Illinois, Urbana, IL; and **John S. Popovics**, University of Illinois

2 AIA/CES LU

Sunday, October 26, 2014 3:30 pm – 5:30 pm

Toward Sustainable Infrastructure with Fiber-Reinforced Polymer Composites, Part 2 of 2—GEORGETOWN WEST

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement, and ACI Subcommittees 440-F, FRP-Repair-Strengthening; 440-H, FRP-Reinforced Concrete; and 440-L, FRP-Durability

Session Moderator: Raafat El-Hacha
Associate Professor
University of Calgary
Calgary, AB, Canada

The session description and learning objectives for this session may be found in the Part 1 listing; see page 75.

FRP Strengthening of Beams Made with Coarse Recycled Concrete Aggregate (CRCA)—3:30 pm
Lawrence C. Bank, Professor, The City College of New York, Arlington, VA; and **Ardavan Yazdanbakhsh**, The City College of New York

Innovative FRP-Reinforced Decks for Movable Bridges—3:45 pm
Amir Mirmiran, Professor and Dean, Florida International University, Miami, FL; **Sahar Ghasemi**, Florida International University; and **Yulin Xiao** and **Kevin Mackie**, University of Central Florida

Effect of Environmental Exposure on Hybrid Composite Beam Bridge Shell Elements—4:00 pm
John J. Myers, Professor, Missouri S&T, Rolla, MO; and **Mohamed A. Aboelseoud**, Missouri S&T

Thermo-Mechanical Compatibility of CFRP versus Steel Reinforcement for Concrete at High Temperature—4:15 pm
Luke A. Bisby, Reader, The University of Edinburgh, Edinburgh, United Kingdom; **Giovanni Terrasi,** EMPA; and **Cristian H. Maluk**, The University of Edinburgh

Strengthening Using FRP Composite: Case Studies for Design and Constructions Consideration—4:30 pm
Tarek Alkhrdaji, Structural Engineer, Structural Technologies, Hanover, MD

Alternative Flexural Strengthening for RC Slabs and Beams Using CFRP and UHPC—4:45 pm
Mahmoud M. Reda Taha, Professor and Chair, University of New Mexico, Albuquerque, NM; **Moneed Genedy**, University of Mexico; and **Jung Kim**, Kyungnam University

Mechanochemistry of NSM CFRP-Concrete Interface in Thermally Conductive Distress—5:00 pm
Yail Jimmy Kim, Associate Professor, University of Colorado Denver, Denver, CO; and **Thushara Siriwadanage**, University of Colorado Denver

Modeling the Bond Fatigue Behavior of Concrete Beams Strengthened with Prestressed NSM CFRP Rods—5:15 pm
Noran Wahab, Research Assistant Professor, University of Waterloo, Waterlook, ON, Canada; and **Khaled A. Soudki** and **Timothy Topper**, University of Waterloo

2 AIA/CES LU

Sunday, October 26, 2014 5:45 pm – 7:00 pm

Opening Session and Katharine & Bryant Mather Commemorative Lecture Series—INTERNATIONAL BALLROOM CENTER

Speaker: Ramón L. Carrasquillo
President
Carrasquillo Associates Ltd.
Austin, TX

Topic: The Millenial Culture: A Challenge to the Way We Do Engineering

The ACI Fall 2014 Convention officially begins during the Opening Session and Katharine & Bryant Mather Commemorative Lecture Series. Ramón Carrasquillo will give a special presentation as part of the Lecture Series. Before the presentation, several individuals and groups will be recognized for their contributions to the concrete industry, including the PCA Bridge Awards presentation.

While engineering fundamentals have not and will never change, does the millenial culture require changes in the way we do engineering? Is the "old plus or minus 10 percent" engineering way wrong and the new "0.1 percent" way better? Are there really two different ways? In this presentation, Dr. Carrasquillo defines the millenial culture and explores how they learn, practice, live, and enjoy engineering. He examines what it takes to educate the millennia engineers and, most importantly, how they receive, manage, and use information and resources. Are traditional teaching institutions, codes, specifications, standards and professional associations of value in the millenial's fast-changing world? However, the one question that still remains unanswered is how effectively they will communicate.

Sunday, October 26, 2014 7:00 pm – 8:00 pm

Opening Reception—COLUMBIA WEST & 5-8

Sponsored by the ACI Washington, DC, Chapter Convention Committee

Immediately following the Opening Session, attendees are invited to the exhibit hall for this evening reception. 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.

Hot Topic Session: Teaching with the New ACI 318-14: A Session for Educators—INTERNATIONAL BALLROOM EAST

Sponsored by the Hot Topics Committee

Session Moderator: Randall W. Poston
Structural Engineering Consultant
Austin, TX

In late 2014, ACI will publish the first major reorganization of ACI 318, "Building Code Requirements for Structural Concrete," since 1971. Providing students with a straightforward, easy-to-navigate code was a major consideration when reorganizing ACI 318-14. During this Hot Topic Session, five professor members of ACI Committee 318, Structural Concrete Building Code, will provide recommendations for integrating the reorganized code into undergraduate and graduate classes. Additionally, several of these members who are authoring textbooks on reinforced concrete design will provide updates on their texts, and ACI staff will provide an overview and design examples from ACI's forthcoming *Reinforced Concrete Design Handbook*. Following the presentations, Poston, Committee Chair during the 2014 code cycle, will facilitate a panel discussion including all speakers; questions will be solicited from audience members.
By attending this session, attendees will be able to:
1. Learn how the completely reorganized ACI 318-14 will engage students with a straightforward and easy-to-navigate code that provides confidence when all design provisions have been met;
2. Provide educators with recommendations and examples for integrating the reorganized code into undergraduate and graduate classes;
3. Learn from authors of several reinforced concrete design textbooks on about forthcoming updates to their texts; and
4. Provide educators with an overview of the ACI's forthcoming *Reinforced Concrete Design Handbook*, including several design examples based on ACI 318-14.

Introduction—8:00 pm

Randall W. Poston, Structural Engineering Consultant, Austin, TX

Integrating Reorganized ACI 318-14 into Reinforced Concrete Design Classes; Design of Concrete Structures Textbook (Co-Authored by Dolan, Darwin, Nilson)—8:10 pm

Charles W. Dolan, H T Person Professor, University of Wyoming, Laramie, WY

Integrating Reorganized ACI 318-14 into Reinforced Concrete Design Classes—8:25 pm

Robert J. Frosch, Professor, Purdue University, West Lafayette, IN

Integrating Reorganized ACI 318-14 into Reinforced Concrete Design Classes; Seismic Design of Reinforced Concrete Buildings —8:40 pm

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

Integrating Reorganized ACI 318-14 into Reinforced Concrete Design Classes; Reinforced Concrete Design Textbook (Co-Authored by Salmon, Pincheira, Parra-Montesinos)—8:55 pm

Gustavo J. Parra-Montesinos, C.K. Wang Professor of Structural Engineering, University of Wisconsin – Madison, Madison, WI

Integrating Reorganized ACI 318-14 into Reinforced Concrete Design Classes; Reinforced Concrete Design and Mechanics Textbook (Co-Authored by MacGregor and Wight)—9:10 pm
James K. Wight, Professor, University of Michigan, Ann Arbor, MI

New ACI Reinforced Concrete Design Handbook—9:25 pm
Khaled Nahlawi, Senior Engineer, American Concrete Institute, Farmington Hills, MI

Panel Discussion—9:40 pm
Randall W. Poston, Structural Engineering Consultant, Austin, TX

2 AIA/CES LU

Sunday, October 26, 2014 9:00 pm – 10:30 pm

Student and Young Professional Networking Event—DISTRICT LINE BAR
Sponsored by the ACI Collegiate Concrete Council and the ACI Student and Young Professional Activities Committee

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

Monday, October 27, 2014 5:00 am and 6:00 am

Run/Walk Meet-Up—TERRACE-LEVEL LOBBY ENTRANCE
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. Suggested routes will be available. All are welcome! *Please consult with your physician to determine if you are fit for this type of activity. Run/walk at your own risk.

Monday, October 27, 2014 6:00 am – 6:45 am

Morning Yoga Class—INTERNATIONAL TERRACE EAST
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 yoga mats will be provided. *Please consult with your physician to determine if you are fit for this type of activity.

Monday, October 27, 2014 6:30 am – 8:00 am

Workshop for Technical Committee Chairs—INTERNATIONAL BALLROOM WEST

Sponsored by the ACI Technical Activities Committee (TAC)

Session Moderator: Ronald J. Janowiak
Senior Engineer
Exelon Generation
Warrenville, IL

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

Monday, October 27, 2014 7:00 am – 8:30 am

Speaker Development Breakfast—INTERNATIONAL TERRACE EAST

Sponsored by ACI Committee S802, Teaching Methods and Educational Materials

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

Speaker: Patricia Flesher
Senior Director, Communications
Portland Cement Association
Skokie, IL

Topic: Talking with the Media: Tips for a Successful Interaction

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

Interactions with members of the media are important for building strong communication goals, as well as building a relationship as a trusted source of information on key issues. Yet, few moments are filled with more anxiety and opportunity than a call from a reporter, television producer, or online journalist. This presentation will provide attendees guidelines for successfully interacting with members of the media during an interview. Examples of proper and improper interactions will be provided. The objectives for attendees will include: present and explain guidelines for successful interaction with members of the media, describe potential problem areas that could occur during an interview, provide practical examples of proper and improper media interaction, and describe techniques that can be used to prepare for a media interview.

Design and Construction Challenges of Atypical RC Columns—GEORGETOWN WEST

Sponsored by ACI Committee 441, Reinforced Concrete Columns

Session Co-Moderators: Asad Esmaeily
Professor
Kansas State University
Manhattan, KS

Elias I. Saqan
Professor of Civil Engineering
American University in Dubai
Dubai, United Arab Emirates

"Atypical" columns cover a wide range of columns that do not fall within the scope of conventional reinforced concrete columns. Using fiber-reinforced polymer as the main reinforcement in longitudinal and lateral directions, special reinforcement arrangement, special types of concrete to address specific needs during construction or service life of the column, abrupt changes in the column cross section within the column length, unusual structural geometry that leads to complicated load demand on the column, and unconventional loads such as blast and impact loads will all qualify a column to be atypical.

The increase in demand for taller buildings, longer span bridges, longer service life of structures, and shorter construction time imposed new challenges on engineers to devise new materials, structural shapes, reinforcement arrangement, and type to meet these demands. As columns are the main structural elements in any structure, they are the most affected by these demands. The objective of this session is to present the latest in analysis, design, and construction of atypical RC columns designed specifically to meet unusual demands.

By attending this session, attendees will be able to:

1. Recognize and understand the difference between conventional and atypical RC columns;
2. Identify issues related to the analysis, design, and construction of atypical RC columns;
3. Learn about current research and construction practices related to atypical RC columns; and
4. Recognize existing codes and standards for the design and construction of atypical RC columns.

Low Flexural and Shear Capacity Bridge Columns under Truck Collision Loads—8:30 am

Nadim I. Wehbe, Professor, South Dakota State University, Brookings, SD; and **Brett Tigges**, South Dakota State University

Investigation of Cross-Spiral Reinforced Concrete Columns Response under Far-Field Detonations—8:47 am

Riyadh A. Hindi, Associate Professor, Saint Louis University, Saint Louis, MO; and **Will D. Lindquist**, **MD Ashiquzzaman**, and **Ahmed Ibrahim**, Saint Louis University

Strength and Axial Behavior of Circular Concrete Columns Reinforced with FRP Bars, Spirals, and Hoops—9:04 am

Brahim Benmokrane, Professor, University of Sherbrooke, Sherbrooke, QC, Canada; and **Hamdy Mohamed** and **Mohammad Zaki Afifi**, Sherbrooke University

Performance of Reinforced Concrete Columns Confined by CFRP Grids—9:21 am

Murat Saatcioglu, Vice Dean, University of Ottawa, Ottawa, ON, Canada; and **Mongi Grira**, University of Ottawa

Performance-Based Seismic Design of Unbonded Post-Tensioned Concrete Bridge Piers—9:38 am

Shahria Alam, Associate Professor, University of British Columbia, Kelowna, BC, Canada; and **Qi Zhang**, University of British Columbia

Shear-Flexure Axial Force in Circular Columns under AASHTO Extreme Load Event—9:55 am

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

Performance of Atypical Columns without Conventional Reinforcement—10:12 am

Asad Esmaeily, Professor, Kansas State University, Manhattan, KS; and **Fatemeh Shirmohammadi**, Kansas State University

2 AIA/CES LU

Monday, October 27, 2014 8:30 am – 10:30 am

Novel Characterization Techniques and Advanced Cementitious Materials: Tribute to James J. Beaudoin, Part 1 of 2—GEORGETOWN EAST

Sponsored by ACI Committee 236, Material Science of Concrete

Session Co-Moderators: Aali R. Alizadeh
CEO
Giatec Scientific Inc.
Ottawa, ON, Canada

Mohammad Pour-Ghaz
Assistant Professor
North Carolina State University
Raleigh, NC

With the recent quest for developing sustainable infrastructure materials, there is a need for more advanced material characterization techniques at different length scales that can provide insight to the nature and fundamental behavior of the new classes of cementitious materials as they are becoming available. These methods can be used to predict the mechanical properties, microstructural aspects, and long-term performance of different cementitious systems. Examples of these novel techniques that have been recently used for material characterization include nuclear magnetic resonance spectroscopy, nano- and microindentation, X-ray tomography, and atomic force microscopy. Recently, major progress has also been made in the development of novel cement-based systems such as CSH/polymer nanocomposites and self-healing materials. These sessions aim at providing a treatise on the current research in the areas related to innovative characterization methods and analytical techniques used in the cement and concrete research, as well as the development of novel basic and composite cementitious materials. These sessions are organized to honor the significant contributions made by Dr. James J. Beaudoin over the past four decades to the advancement of cement and concrete science. Dr. Beaudoin is a Researcher Emeritus and Fellow of the Royal Society of Canada. He is the recipient of numerous prestigious awards.
By attending this session, attendees will be able to:
1. Understand the fundamentals of new characterization and measurement techniques in cement and concrete materials;
2. Identify the capabilities and limitations of measurement techniques for materials characterization;
3. Learn about ongoing research and future advancements in the development of novel cementitious materials; and

4. Develop an appreciation of the interdisciplinary nature of the research and development work conducted in cement and concrete materials studies.

A Comprehensive Numerical Study of Polarization Tests Applied to Corrosion Systems in Reinforced Concrete—8:30 am

Jacques Marchand, President, SIMCO Technologies Inc., Quebec, QC, Canada; and **Eric Samson**, Simco Technologies Inc.

Drying of Cementitious Materials: A Comparison between Plain Mixtures and Mixtures Containing Shrinkage-Reducing Admixtures—8:50 pm

W. Jason Weiss, Professor, Purdue University, West Lafayette, IN; **Mohammad Pour-Ghaz**, North Carolina State University; and **Robert Spragg**, and **Chiara Villani**, Purdue University

Dynamic Indentation Testing of C-S-H and C-(A)-S-H for Viscoelastic Properties—10:10 am

William A. Hunnicutt, PhD Student, University of Illinois at Urbana-Champaign, Urbana, IL; and **Leslie J. Struble** and **Paramita Mondal**, University of Illinois at Urbana-Champaign

Electrical Impedance Tomography: A New Imaging Modality for Material Characterization—10:30 am

Mohammad Pour-Ghaz, Assistant Professor, North Carolina State University, Raleigh, NC; **Milad Hallji,** North Carolina State University; and **Aku Seppänen**, University of Eastern Finland

Where Are the Gaps in Current Characterization Techniques and Standards for Evaluating the Performance and Promoting the Use of Novel Cementitious Materials?—10:50 am

R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada

Correlating Microstructural Features and Viscoelastic Characteristics of C-S-H with Low C/S Ratio—11:10 am

Mahmoud M. Reda Taha, Professor and Chair, University of New Mexico, Albuquerque, NM; and **S. Aboubakr**, **M. Begaye**, and **J. J. Kim**, University of New Mexico

2 AIA/CES LU

Research in Progress, Part 1 of 2—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators:

Jacob Henschen
Visiting Instructor
Valparaiso University
Valparaiso, IN

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

This session will feature presentations of original, unpublished results from ongoing research projects and leading-edge concrete technology and research throughout the world.
By attending this session, attendees will be able to:
1. Recognize ongoing concrete research projects from a wide range of research topics;
2. 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 material research.

Assessment of Bamboo Culm Ash for Use as Supplementary Cementitious Material—8:30 am

Sara Soleimanzadeh, PhD Student, University of Alabama, Tuscaloosa, AL; and **Eric Giannini,** University of Alabama

An Experimental Investigation of the Selected Properties of Calcium-Silicate-Based Carbonated Concrete Systems—8:45 am

Warda B. Ashraf, Graduate Student, Purdue University, West Lafayette, IN; **Hyungu Jeong**, and **Jan Olek**, Purdue University; and **Jitendra Jain**, Solidia Technologies

Durability of CAC-and CSA-based Blended Cements—9:00 am

Racheal Lute, PhD Candidate, University of Texas at Austin, Austin, TX

Effect of Elevated Temperature on the Gel Structure of Alkali-Activated Binders Compared to Portland Cement-Based Binders—9:15 am

Oscar G. Rivera, PhD Student, University of Alabama, Tuscaloosa, AL; **Paul G. Allison**, University of Alabama; and **Charles A. Weiss Jr., Robert D. Moser**, **Wendy R. Long**, **E. Rae Gore**, and **Brett A. Williams**, Engineer Research and Development Center

The Effect of Activating Solution Concentration on Alkali-Silica Reaction in Alkali-Activated Fly Ash Concrete—9:30 am

Trevor J. Williamson, PhD Candidate, University of Texas at Austin, Austin, TX; and **Maria Juenger,** University of Texas at Austin

Insight into the Allaying Mechanism Aqueous Aluminum Has on Alkali-Silica Reaction—9:45 am

Jared Wright, PhD Student, Pennsylvania State University, State College, PA; and **Afshin Shafaatian**, **Farshad Rajabipour**, and **Carlo Pantano**, Pennsylvania State University

Experimental and Numerical Investigation of the Influence of Concrete Cracks and Corrosion on Electrical Resistivity Measurements Using a Four-Point Wenner Probe—10:00 am

Monica Morales, Graduate Research Assistant, Oregon State University, Corvallis, OR; **Mustafa Salehi**, Oregon State University; **O. Burkan Isgor**, Carleton University; and **Pouria Ghods**, Giatec Scientific

Developing Ultra-High-Performance Fiber-Reinforced Concrete Design Guidelines with Lattice Discrete Particle Modeling—10:15 am

Rafic G. El-Helou, Graduate Student, Virginia Tech University, Blacksburg, VA; **Cristopher D. Moen**, Virginia Tech University; and **Gianluca Cusatis**, Northwestern University

2 AIA/CES LU

Monday, October 27, 2014 8:30 am – 10:30 am

Structural Health Monitoring of Concrete Structures (Durability), Part 3 of 6—Tribute to Richard Weyers—CABINET

Sponsored by ACI Committees 444, Structural Health Monitoring and Instrumentation; 209, Creep and Shrinkage in Concrete; 222, Corrosion of Metals in Concrete; 345, Concrete Bridge Construction, Maintenance and Repair; 348, Structural Reliability and Safety; 365, Service Life Prediction; 435, Deflection of Concrete Building Structures; and Joint ACI-ASCE Committees 343, Concrete Bridge Design, and 441, Reinforced Concrete Columns.

Session Co-Moderators:

Michael C. Brown
Associate Director
Virginia Center for Transportation Innovation and Research
Charlottesville, VA

David Trejo
Professor and Hal Pritchett Endowed Chair
Oregon State University
Corvallis, OR

The session description and learning objectives for this session may be found in the Part 1 listing; see page 74.

Corrosion of Reinforcement in High-Performance Concrete—8:30 am

Michael M. Sprinkel, Associate Director, Virginia Center for Transportation Innovation and Research, Charlottesville, VA; and **Stephen R. Sharp**, Virginia Center for Transportation Innovation and Research

Evaluation of the Proposed European Rapid Screening Test for Stainless Steel Reinforcing Bar—8:55 am

Timothy Bandura, Graduate Student, University of Waterloo, Waterloo, ON, Canada; and **C. B. Van Niejenhuis** and **Carolyn M. Hansson**, University of Waterloo

Utilizing Large Laboratory Specimens to Develop Field Evaluation Techniques for Reinforced Concrete—9:20 am

Neal S. Berke, Vice President, Reserach, Tourney Consulting Group LLC, Kalamazoo, MI; and **Brooks Bucher**, Tourney Consulting Group LLC

Use of Passive and Wireless-Based RFID Sensors to Measure Chloride Ingress in Concrete—9:45 am

Tyler Ley, Assistant Professor, Oklahoma State University, Stillwater, OK; **Peter C. Taylor**, National Concrete Pavement Technology Center; **Nick Materer** and **Allen Apblett**, Oklahoma State University; and **John Myers**, Missouri S&T

Modeling the Remaining Service Life of Reinforced Concrete Bridges—10:10 am

David Trejo, Professor and Hal Pritchett Endowed Chair, Oregon State University, Corvallis, OR; and **O. Burkan Isgor,** Oregon State University

2 AIA/CES LU

Monday, October 27, 2014 11:00 am – 1:00 pm

In-Situ Transport Measurements—GEORGETOWN WEST

Sponsored by ACI Committees 228, Nondestructive Testing of Concrete, and 236, Material Science of Concrete

Session Co-Moderators:

Andrew J. Boyd
Associate Professor
McGill University
Montreal, QC, Canada

Michelle R. Nokken
Associate Professor
Concordia University
Montreal, QC, Canada

Increasingly, performance specifications are used for measuring transport properties, such as diffusion, permeability, and absorption. However, most testing to date uses lab-based methods and therefore does not measure as placed concrete. This session will focus on in-situ transport measurement techniques, data interpretation given varying site conditions, and incorporation into construction specifications.
This session is intended to present ongoing research on methods to test concrete on-site, which can be directly related to transport in concrete. It is aimed at those preparing specifications as well other practicing engineers.
By attending this session, attendees will be able to:
1. Understand limitations of lab-based test methods;
2. Recognize the influence of moisture, temperature, and other site conditions on test results;
3. Establish benefits of multiple methods and their correlation to standardized tests; and
4. Explain differences in results obtained for lab concrete versus field concrete.

Partial Saturation and Its Impact on Transport Measures—11:00 am

Yiwen Bu, Graduate Student, Purdue University, West Lafayette, IN; and **W. Jason Weiss** and **Robert Spragg**, Purdue University

Influence of Moisture and Temperature for In-Situ Water Absorption—Laboratory Study and Field Validation—11:20 am

Michelle R. Nokken, Associate Professor, Concordia University, Montreal, QC, Canada; and **Babak Mohammadi**, Concordia University

Repeatability and Reliability of New In-Situ Air and Water Permeability Test Protocols to Assess Permeation Properties of High-Performance Concretes—11:40 am
P. A. Muhammed Basheer, Professor, University of Leeds, Leeds, United Kingdom; and **Adrian E. Long** and **Kai Yang**, Queen's University

Quantifying Uncertainties Associated with the Use of Electrical Measurements to Assess Moisture Penetration in Cementitious Materials—12:00 pm
Milad Hallaji, Graduate Student, North Carolina State University, Raleigh, NC; **Mohammad Pour-Ghaz**, North Carolina State University; and **Aku Seppanen**, University of Eastern Finland

Moisture Movement in Concrete Railroad Crossties under Field Conditions—12:20 pm
Daniel Castaneda, Graduate Student, University of Illinois at Urbana-Champaign, Urbana, IL; and **David A. Lange**, University of Illinois

Dnssm and Dnssd from Cores Obtained at Fender Piles of the Key Royale Bridge Innovative Research Project—12:40 pm
Francisco Presuel-Moreno, Associate Professor, Florida Atlantic University, Dania Beach, FL; and **Ronald M. Simmons**, Florida Department of Transportation

2 AIA/CES LU

Monday, October 27, 2014 11:00 am – 1:00 pm

Novel Characterization Techniques and Advanced Cementitious Materials: Tribute to James J. Beaudoin, Part 2 of 2—GEORGETOWN EAST

Sponsored by ACI Committee 236, Material Science of Concrete

Session Co-Moderators:
Mohammad Pour-Ghaz
Assistant Professor
North Carolina State University
Raleigh, NC

W. Jason Weiss
Professor
Purdue University
West Lafayette, IN

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

Innovative Measurement Science and Construction Materials—A Federal Laboratory Perspective—11:00 am
Kenneth Snyder, Group Leader, National Institute of Standards and Technology, Gaithersburg, MD; and **Dale P. Bentz**, **Edward J. Garboczi**, **Jeffrey W. Bullard**, **C. F. Ferraris**, **N. Martys**, and **P. E. Stutzman**, National Institute of Standards and Technology

A Critical Look at Advanced Nano-to-Macroscale Characterization Techniques to Study Passivity and Corrosion of Steel in Concrete—11:20 am
O. Burkan Isgor, Associate Professor, Oregon State University, Corvallis, OR; and **Pouria Ghods**, Giatec Scientific Inc.

Characterization of Pozzolans: Evaluation of an Accelerated Test Method for Reactivity—11:40 am

Maria G. Juenger, Associate Professor, University of Texas at Austin, Austin, TX; and **Lisa E. Burris** and **Saamiya Seraj**, University of Texas

Hydration of Cement Systems in the Presence of Novel Organo-Mineral Composites—12:00 pm

Laila Raki, Senior Research Officer, National Research Council, Ottawa, ON, Canada; and **Aali R. Alizadeh**, Giatec Scientific Inc.

Experimental Investigation of Alkali-Silica Reaction in Mortar at Room Temperature—12:20 pm

R. James Kirkpatrick, Professor, Michigan State University, East Lansing, MI; and **Leslie J. Struble** and **Qiang Li**, University of Illinois-Champaign

Use of NMR Spectroscopy to Discern the Gel Structure in Alkali-Activated Fly Ash and Slag Systems—12:40 pm

Narayanan Neithalath, Associate Professor, Arizona State University, Tempe, AZ; and **Akash Dakhane**, **Zihui Peng**, and **Robert Marzke**, Arizona State University

2 AIA/CES LU

Monday, October 27, 2014 11:00 am – 1:00 pm

Research in Progress, Part 2 of 2—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators:

Jacob Henschen
Visiting Instructor
Valparaiso University
Valparaiso, IN

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

The session description and learning objectives for this session may be found in the Part 1 listing; see page 88.

Behavior of Precast, Prestressed Calcium Sulfoaluminate Cement Concrete Beams—11:00 am

Royce Floyd, Assistant Professor, University of Oklahoma, Norman, OK; and **Chris Ramseyer**, University of Oklahoma

Improving Camber Predictions in Prestressed Concrete Girders—11:15 am

David M. Mante, Graduate Research Assistant, Auburn University, Auburn, AL; and **Robert W. Barnes** and **Anton Schindler**, Auburn University

Finite Element Analysis of Flat Slabs Retrofitted with Shear Bolts—11:30 am
Aikaterini Genikomsou, PhD Candidate, University of Waterloo, Waterloo, ON, Canada; and **Maria Polak**, University of Waterloo

Reliability of Stress Calculations for Indeterminate Concrete Arches—11:45 am
Hossein Yousefpour, PhD Candidate, University of Texas at Austin, Austin, TX; and **Todd Helwig** and **Oguzhan Bayrak**, University of Texas at Austin

Flexural Behavior of RC Beams Strengthened with High-Strength Steel-Inorganic Matrix Composites—12:00 pm
Daniel Grek, Instructor, Rutgers University, Piscataway, NJ; and **P. N. Balaguru**, Rutgers University

Development Length for Headed Reinforcing Bars in Slab Bridges—12:15 pm
Juan Murcia-Delso, Postdoctoral Researcher, University of California, San Diego, La Jolla, CA; and **P. Benson Shing,** University of California, San Diego

Behavior of the Splice Regions of Spliced I-Girder Bridges—12:30 pm
Christopher S. Williams, PhD Candidate, University of Texas at Austin, Austin, TX; and **Andrew M. Moore**, **Oguzhan Bayrak**, **James O. Jirsa**, and **Wassim Ghannoum**, University of Texas at Austin

Strength and Behavior of Circular Concrete-Filled Fiber-Reinforced Polymer Tubes Loaded in Torsion—12:45 pm
James St. Onge, MASc Candidate, Queen's University, Kingston, ON, Canada; and **Amir Fam**, Queen's University

2 AIA/CES LU

Monday, October 27, 2014 11:00 am – 1:00 pm

Structural Health Monitoring of Concrete Structures (Serviceability), Part 4 of 6—CABINET

Sponsored by ACI Committees 444, Structural Health Monitoring and Instrumentation; 209, Creep and Shrinkage in Concrete; 222, Corrosion of Metals in Concrete; 348, Structural Reliability and Safety; 365, Service Life Prediction; 435, Deflection of Concrete Building Structures; and Joint ACI-ASCE Committees 343, Concrete Bridge Design, and 441, Reinforced Concrete Columns.

Session Co-Moderators:
Nakin Suksawang
Assistant Professor
Florida Institute of Technology
Melbourne, FL

Thomas Schumacher
Assistant Professor
University of Delaware
Newark, DE

The session description and learning objectives for this session may be found in the Part 1 listing; see page 74.

Load Testing and Evaluation of Concrete Bridges—11:00 am
Nakin Suksawang, Assistant Professor, Florida Institute of Technology, Melbourne, FL

Bridge Evaluation Based On Structural Health Monitoring Data—11:25 am
H. Al-Khateeb, Graduate Student, University of Delaware, Newark, DE; and **Harry Shenton** and **Michael J. Chajes**, University of Delaware

Structural Health Monitoring of Concrete Structures Using Carbon Nanotube-Based Sensing Composites—11:50 am
Hongbo Dai, Graduate Student, University of Delaware, Newark, DE; and **Thomas Schumacher** and **Erik T. Thostenson**, University of Delaware

Monitoring of Cracking in Concrete Structures Using Quantitative Acoustic Emission Techniques—12:15 pm
Lassaad Mhamdi, Graduate Student, University of Delaware, Newark, DE; **Thomas Schumacher,** University of Delaware; and **Lindsay Linzer**, University of the Witwatersrand

Video-Based Structural Health Monitoring: A Review—12:40 pm
Ali Shariati, Graduate Student, University of Delaware, Bethlehem, PA; and **Thomas Schumacher**, University of Delaware

2 AIA/CES LU

Monday, October 27, 2014 11:30 am – 1:30 pm

✓Student Lunch—INTERNATIONAL BALLROOM WEST
$61.00 U.S. per person
FREE to students who preregister by 9/28/14
Sponsored by Baker Concrete Construction Company, Inc.

Coordinated by the Washington, DC, Chapter Convention Committee and ACI Committee S801, Student Activities

Speaker: Tanya Komas
Professor
California State University at Chico
Chico, CA

Topic: Concrete Evaluation, Preservation, and Repair at Two Important Historic Sites: Pointe du Hoc, Normandy, France, and Alcatraz Island, San Francisco

Join students and other ACI attendees for the Student Lunch. Speaker Tanya Komas, Director and Professor at the Concrete Industry Management program at California State University, will give a presentation. Following the lecture, the results of the student competition will be announced.

PREREGISTRATION IS REQUIRED TO ATTEND*. This lunch is expected to sell out. A very limited number of tickets will be available for purchase on-site, by 5 pm on Saturday, October 25, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.*
✓ = Separate fee required

Celebrating 100 Years of John Joseph Earley and the Earley Studio Work, Part 1 of 2—GEORGETOWN EAST

Sponsored by ACI Committees 120, History of Concrete, and 124, Concrete Aesthetics

Session Moderator: Kimberly Waggle Kramer
Director of Graduate Studies
Kansas State University
Manhattan, KS

This session will be dedicated to M. K. (Mary Krumboltz) Hurd, The Woman Who Formed Concrete. Architectural concrete and ACI pioneer John J. Earley left a legacy of distinctive work throughout the United States, but nowhere more than in Washington, DC. These sessions will present some of the outstanding Earley Studio projects in the nation's capital and other parts of the country. The history of John J. Earley's innovation will highlight distinctive features at Meridian Hill Park, the Shrine of the Sacred Heart, the Polychrome Houses, and the Franciscan Monastery of the Holy Land in America. These spectacular projects illustrate the revolutionary work done in concrete nearly 100 years ago. You will be amazed by concrete's resilience and aesthetic durability.

By attending this session, attendees will be able to:

1. Appreciate concrete aesthetics;
2. Recognize John J. Earley's work;
3. Understand the restoration of his projects; and
4. Learn about the history of construction.

M. K. Hurd: The Woman Who Formed Concrete—1:30 pm

Kimberly Waggle Kramer, Director of Graduate Studies, Kansas State University, Manhattan, KS; and **Larry Rowland**, Lehigh White Cement Company

The Development of the "Earley Process": A Historical Review—1:40 pm

Jenna Cellini Bresler, Senior Engineer, Robert Silman Associates, Boston, MA

Repairing Old Concrete at Meridian Hill Park, Washington, DC—2:10 pm

Robert A. Weinstein, President, Architrave P.C., Washington, DC; and **Judith M. Capen**, Architrave P.C.

Time Foes, You Say? Ah, No, Alas, Time Stays: We Go—2:30 pm

Kimberly Waggle Kramer, Director of Graduate Studies, Kansas State University, Manhattan, KS

Secrets of John Earley's Mosaic Concrete on the Baha'i Temple—2:50 pm

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

2 AIA/CES LU

James K. Wight: A Tribute from His Students and Colleagues, Part 2 of 3—GEORGETOWN WEST

Sponsored by ACI Committee 318, Structural Concrete Building Code, and Joint ACI-ASCE Committee 352, Joints and Connections in Monolithic Concrete Structures

Session Moderator: Gustavo J. Parra-Montesinos
C.K. Wang Professor of Structural Engineering
University of Wisconsin – Madison
Madison, WI

This session is aimed at disseminating information related to past and current research on cast-in-place and precast beam-column connections of earthquake-resistant frame structures, as well as connections in precast bridge girders.

By attending this session, attendees will be able to:

1. Understand the evolution of design provisions for beam-column connections of earthquake-resistant frame structures;
2. Understand force-transfer mechanisms in cast-in-place and precast beam-column connections;
3. Understand primary variables affecting joint behavior; and
4. Gain knowledge on modeling techniques for beam-column connections.

Design Guidance for Beam-Column Joints: A 50-Year Effort—1:30 pm

James O. Jirsa, Janet S. Cockrell Centennial Chair in Engineering, University of Texas at Austin, Austin, TX

Hybrid Testing of Beam-to-Column Connection Regions of a Code-Compliant RC Moment-Frame Building—1:50 pm

Burcu Burak, Assistant Professor, Middle East Technical University, Ankara, Turkey

An Innovative Analytical Approach for RC Beam-Column Connection Joint Shear Behavior Prediction Using Basic Joint Shear Resistance Mechanisms—2:10 pm

James M. LaFave, Professor, University of Illinois at Urbana-Champaign, Mahomet, IL; and **Jaehong Kim**, SK Ghosh Associates Inc.

Beam-Column Subassemblage Tests Conducted at the University of Minnesota—2:30 pm

Catherine E. French, I.T. Distinguished Professor, University of Minnesota, Minneapolis, MN

Evaluation of Spliced Connections for Continuous Prestressed Concrete Girder Bridges—2:50 pm

Mary Beth D. Hueste, Professor, Texas A&M University, College Station, TX; and **John B. Mander**, **Reza Baie**, **Anagha S. Parkar**, **Akshay Parchure**, **J. Michelle Prouty,** and **Tristan Sarremejane**, Texas A&M University

2 AIA/CES LU

Lessons from the Past We Can Use Today—INTERNATIONAL BALLROOM EAST

Sponsored by the ACI International Advisory Committee and ACI Committees 120, History of Concrete, and E702, Designing Concrete Structures

Session Co-Moderators:

Luke M. Snell
Senior Materials Engineer
Western Technologies Inc.
Phoenix, AZ

Billie G. Snell
Co-Developer of Floating Concrete Kids
Tempe, AZ

This session is to assist those who do volunteer projects in developing areas or who want to learn more about engineering and construction procedures from the past.
By attending this session, attendees will be able to:
1. Learn about the history of concrete construction and engineering procedures;
2. Enrich concrete design and construction classes with details of how we used to do it;
3. Provide techniques to those working in areas without modern construction equipment; and
4. Assist students and volunteers who are planning to help those in disaster areas.

Build it Better: Concrete Pavements Construction Guidelines from 1914—1:30 pm

Kurt D. Smith, Program Director, Applied Pavement Technology, Inc., Urbana, IL

Use of Pozzolans: Lessons from History—1:50 pm

Michael D. A. Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada; and **Alyson Dean**, New Brunswick Department of Transportation and Infrastructure

Adam Beck Power Plant at Niagara Falls, 1919-1921—2:10 pm

R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada

Concrete Mixture Designs—A Retrospective—2:30 pm

James M. Shilstone, Jr., Concrete Technologist, Command Alkon, Inc., Frisco, TX

A Review of 50-Year History of New Zealand Concrete Society—2:50 pm

Jason M. Ingham, Senior Lecturer, The University of Auckland, Auckland, New Zealand; and **Gavin Cormack**, Former Executive Chairman of Beca Group

Understanding Fine Aggregates (Sand) in Volumetric Mixing—3:10 pm

Luke M. Snell, Senior Materials Engineer, Western Technologies Inc., Phoenix, AZ

2 AIA/CES LU

Structural Health Monitoring of Concrete Structures (Serviceability), Part 5 of 6—CABINET

Sponsored by ACI Committees 444, Structural Health Monitoring and Instrumentation; 209, Creep and Shrinkage in Concrete; 222, Corrosion of Metals in Concrete; 348, Structural Reliability and Safety; 365, Service Life Prediction; 435, Deflection of Concrete Building Structures; and Joint ACI-ASCE Committees 343, Concrete Bridge Design, and 441, Reinforced Concrete Columns

Session Co-Moderators:

Andrzej S. Nowak
Professor of Civil Engineering
Auburn University
Auburn University, AL

Mohammad Pour-Ghaz
Assistant Professor
North Carolina State University
Raleigh, NC

The session description and learning objectives for this session may be found in the Part 1 listing; see page 74.

Monitoring Moments for Service Limit States in Concrete Bridges—1:30 pm

Andrzej S. Nowak, Professor of Civil Engineering, Auburn University, Auburn University, AL; and **Przemyslaw Rakoczy** and **Krzysztof Waszczuk**, University of Nebraska-Lincoln

Experimental Study on Concrete Beam Damage Detection Using Random Decrement Technique—1:55 pm

Hesham Marzouk, Professor of Civil Engineering, Ryerson University, Toronto, ON, Canada; and **Rana Morsy**, Ryerson University

Ice Load Monitoring for Bridge Substructure in South Dakota Rivers—2:20 pm

Shiling Pei, Assistant Professor, Colorado School of Mines, Golden, CO; and **Nadim I. Wehbe**, **John M. Hanson**, and **Brittney Ahrenstorff**, South Dakota State University

Electrical Impedance Tomography-Based Sensing Skin for Quantitative Imaging of Damage in Concrete—2:50 pm

Milad Hallaji, Graduate Research Assistant, Assistant Professor, North Carolina State University, Raleigh, NC; **Mohammad Pour-Ghaz**, North Carolina State University; and **Aku Seppanen**, University of Eastern Finland

Assessment of the Structural Damage in Concrete Girders Using Digital Image Correlation—3:10 pm

Amr Abdel Fattah El Ragaby, Assistant Professor, University of Windsor, Windsor, ON, Canada; and **Faouzi Ghrib**, University of Windsor

2 AIA/CES LU

Monday, October 27, 2014 3:30 pm – 5:00 pm

**Guest Social—HEIGHTS COURTYARD*

Sheila Rushing invites all registered convention guests to join her for the Guest Social. You don't want to miss an opportunity to catch up with old friends, get to know other convention guests, and enjoy light refreshments. A guest name badge is required to attend this event. In the event of inclement weather, the guest social will be held in INTERNTATIONAL TERRACE EAST.

* = Guest-only event

Monday, October 27, 2014 4:00 pm – 6:00 pm

James K. Wight: A Tribute from His Students and Colleagues, Part 3 of 3—GEORGETOWN WEST

Sponsored by ACI Committee 318, Structural Concrete Building Code, and Joint ACI-ASCE Committee 352, Joints and Connections in Monolithic Concrete Structures

Session Co-Moderators:

Gustavo J. Parra-Montesinos
C.K. Wang Professor of Structural Engineering
University of Wisconsin – Madison
Madison, WI

Mary Beth D. Hueste
Professor
Texas A&M University
College Station, TX

This session is aimed at disseminating information related to past and current research on behavior of reinforced concrete flexural members and walls, as well as on structural collapse. By attending this session, attendees will be able to:
1. Understand the behavior of discontinuity regions of structural walls, such as short wall segments around openings, during strong ground motions;
2. Understand factors that may lead to collapse of reinforced concrete structures;
3. Understand the behavior of flexural elements under monotonic and reversed cyclic loading; and
4. Understand the behavior of headed bars when used as transverse reinforcement in reinforced concrete flexural members.

Design of Discontinuity Regions of Earthquake-Resisting Structural Walls—4:00 pm

Jack P. Moehle, T.Y. and Margaret Lin Professor of Engineering, University of California, Berkeley, Berkeley, CA; and **Santiago Pujol**, Purdue University

An Insight of the Space Building Collapse—4:20 pm

Luis E. Garcia, Partner/President, Projects and Designs Ltda., Bogota DC, Colombia; **Mete A. Sozen**, Purdue University; **Anthony E. Fiorato**, Consultant; and **Juan Francisco**, **Correal Daza**, and **Luis Yamin**, University of Los Andes

Deformation Capacity and Strength of RC Frame Members Constructed with High-Strength Materials—4:40 pm

Min Yuan Cheng, Assistant Professor, National Taiwan University of Science and Technology, New Taipei City, Taiwan; and **Remy D. Lequesne**, and **Andres Lepage**, University of Kansas

Shear Strength of RC Flexural Elements Reinforced with T-Headed Transverse Reinforcement in Safety-Related Nuclear Facilities—5:00 pm

Michael E. Kreger, Garry Neil Drummond Endowed Chair in Civil Engineering, University of Alabama, Tuscaloosa, AL; and **Yuxing Yang** and **Amit H. Varma**, Purdue University

Reinforced Concrete in Motion: A Retrospective of Developments on Knowledge Related to Flexural Response of Reinforced Concrete—5:20 pm

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

2 AIA/CES LU

Monday, October 27, 2014 4:00 pm – 6:00 pm

Service-Life Modeling—Case Studies and Validation—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committee 365, Service Life Prediction

Session Moderator: David B. McDonald
Managing Director
Epoxy Interest Group of CRSI
Schaumburg, IL

Service-life models consider the effects of the environment along with the performance of materials to determine future performance of the materials. In this session, these models are critically evaluated and their accuracy of prediction considered. Papers are presented in this session demonstrating the wide utility of service-life modeling, including review of a parking garage built in the 1930s, assessment of concrete samples subjected to marine waters for a period of 25 years, evaluation and prediction of performance of a 50-year-old Vehicle Assembly Building (VAB) at Kennedy Space Center, a review of chloride thresholds for reinforcing steel, and an understanding of the 1885 LOSSAN Rail Corridor. The session will provide an information on the utility of service-life models and would be of interest to both practitioners and researchers.

By attending this session, attendees will be able to:

1. Understand service-life prediction for various environmental conditions;
2. Understand how field data may be used to validate initial predictions;
3. Gain knowledge of state-of-the-art methods in service prediction; and
4. Gain insight into the use of various materials to improve concrete performance.

Service-Life Predictions for an Existing Indoor Parking Garage Subject to Chloride Contamination—4:00 pm

Charles DeVore, Associate, Exponent Inc., New York, NY; and **Anthony M. Dolhon**, Exponent Inc.

Validation of Service-Life Models Using Data from a Marine Exposure Site—4:20 pm

Michael D. A. Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada

Service-Life Prediction of Damage Development in Elevated Slabs Due to Carbonation-Induced Corrosion Calibrated to Bar Condition—4:40 pm

John S. Lawler, Materials Engineer, Wiss, Janney, Elstner Associates Inc., Northbrook, IL; and **Jonah C. Kurth**, Wiss, Janney, Elstner Associates, Inc.

A New Perspective on Chloride Thresholds and Its Implications on Modeling Steel Corrosion in Concrete—5:00 pm

O. Burkan Isgor, Associate Professor, Oregon State University, Corvallis, OR; and **Pouria Ghods**, Giatec Scientific Inc.

Looking Back 100 Years to Design for the Next 100 Years: Validation of Chloride Modeling and Mixture Design to Achieve 100 Years of Service Life along The LOSSAN Rail Corridor in San Diego—5:20 pm

Bruce G. Smith, Rail Engineer, SANDAG, San Diego, CA; and **Paul G. Tourney**, Tourney Consulting Group

2 AIA/CES LU

Monday, October 27, 2014 4:00 pm – 6:00 pm

Structural Health Monitoring of Concrete Structures (Serviceability), Part 6 of 6—CABINET

Sponsored by ACI Committees 444, Structural Health Monitoring and Instrumentation; 209, Creep and Shrinkage in Concrete; 222, Corrosion of Metals in Concrete; 348, Structural Reliability and Safety; 365, Service Life Prediction; 435, Deflection of Concrete Building Structures; and Joint ACI-ASCE Committees 343, Concrete Bridge Design, and 441, Reinforced Concrete Columns.

Session Co-Moderators:

Faris Malhas
Professor and Dean
Central Connecticut State University
New Britain, CT

Andrew Scanlon
Professor
Penn State University
University Park, PA

The session description and learning objectives for this session may be found in the Part 1 listing; see page 74.

Condition Assessment of RC Structures through Dynamic Testing—4:00 pm

Juan Carlos Araiza, Senior Associate, CTLGroup, Austin, TX

Application of Structural Health Monitoring Data in the Probabilistic Safety Evaluation of a Reinforced Concrete Bridge—4:22 pm

Alberto Colombo, Graduate Student, University of São Paulo, São Paulo, Brazil; **Tulio N. Bittencourt**, University of São Paulo; and **Leila Meneghetti**, Federal University of Rio Grande do Sul

Structural Health Monitoring of Reinforced Bar Debonding in Concrete Bridge Decks due to Traffic-Induced Vibrations—4:44 pm

Miguel Beltran, Research Assistant, Rutgers, The State University of New Jersey, Piscataway, NJ; and **Hani H. Nassif**, Rutgers, The State University of New Jersey

On-Site Crack Identification Using Fiber-Optic Sensors—5:06 pm
Branko Glisic, Assistant Professor, Princeton University, Princeton, NJ; and **Hiba AbdelJaber**, Princeton University

Prediction of Live Load Based on WIM Measurements—5:28 pm
Andrzej S. Nowak, Professor of Civil Engineering, Auburn University, Auburn University, AL; and **Przemyslaw Rakoczy** and **Krzysztof Waszczuk**, Auburn University

Closing Remarks—5:50 pm
Hani H. Nassif, Professor, Rutgers, The State University of New Jersey, Piscataway, NJ

2 AIA/CES LU

Monday, October 27, 2014 4:00 pm – 6:00 pm

Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 1 of 3—GEORGETOWN EAST

Sponsored by ACI Committee 345, Concrete Bridge Construction, Maintenance, and Repair; Joint ACI-ASCE Committee 343, Concrete Bridge Design; and ACI Committee 201, Durability of Concrete

Session Co-Moderators:

Yail Jimmy Kim
Associate Professor
University of Colorado Denver
Denver, CO

Baolin Wan
Associate Professor
Marquette University
Milwaukee, WI

Isamu Yoshitake
Associate Professor
Yamaguchi University
Yamaguchi, Japan

The special session will emphasize the sustainable performance of concrete bridges and their elements when subjected to aggressive environments. Presentations will include a variety of technical aspects such as durability of concrete members, performance monitoring technologies, evaluation methodologies, damage assessment, and structural rehabilitation. 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 given to those who lead tomorrow's bridge design and construction, including practicing engineers, government officials, and academics.
By attending this session, attendees will be able to:
1. Learn the state-of-the-art of sustainable infrastructure;
2. Identify research needs to advance the knowledge associated with constructed concrete bridges;
3. Recognize the effort to establish a new trend in performance evaluation and rehabilitation methods; and
4. Link laboratory investigations with practical site applications.

Revitalization and Repurpose of 90-Year-Old Concrete Bridge Piers—4:00 pm
Vireak Hinh, Structural Engineer, R.V. Anderson Associates Limited, Toronto, ON, Canada

Managing ASR and DEF in Concrete Bridge Columns—4:20 pm
Mark Erik Williams, Principal, Walter P Moore, Houston, TX

Durability and Mechanical Performance of a Sustainable Low-Cement Concrete for DOT Applications—4:40 pm
Reza Moini, Research Teaching Assistant, University of Wisconsin – Milwaukee, Milwaukee, WI; and **Ismael Flores-Vivian** and **Konstantin Sobolev**, University of Wisconsin – Milwaukee

Virginia Experience with Post-Tensioned Tendon Grouts—5:00 pm
Michael M. Sprinkel, Associate Director, Virginia Transportation Research Council, Charlottesville, VA

Early-Age Cracking in Cast-in-Place Concrete Bridge Decks due to Shrinkage Strain—5:20 pm
Baolin Wan, Associate Professor, Marquette University, Milwaukee, WI; and **Christopher M. Foley** and **Tayyebeh Mohammadi**, Marquette University

Response Surface Metamodel-Based Performance Reliability for Reinforced Concrete Beams Strengthened with FRP Sheets—5:40 pm
Junwon Seo, Assistant Professor, South Dakota State University, Brookings, SD; **Yail Jimmy Kim**, University of Colorado Denver; and **Shadi Zandyavari**, South Dakota State University

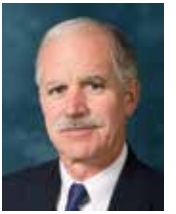
2 AIA/CES LU

Monday, October 27, 2014 6:00 pm – 7:00 pm

Women in ACI Reception—HEIGHTS COURTYARD
All registered convention attendees are invited to attend the Women in ACI Reception. This long-standing ACI tradition is a great opportunity to get to know other women in the concrete industry. A cash bar and light hors d'oeuvres will be served. This reception will also feature a Silent Auction where attendees can bid on concrete artwork created by university students. 100% of the auction proceeds will be used to assist young industry professionals in attending a future ACI Convention. All are welcome! In the event of inclement weather, the Women in ACI Reception will be held in INTERNTATIONAL TERRACE EAST.

Monday, October 27, 2014 6:30 pm – 7:30 pm

✓*Reception Honoring James K. Wight—COLUMBIA 9 & 10*
$52.00 U.S. per person



Please join ACI attendees in honoring Professor James K. Wight, ACI Past President, for his numerous contributions and accomplishments. He served as ACI President in 2012/2013 and has Chaired and served on several ACI committees over the years, including ACI Committee 318, Structural Concrete Building Code; Joint ACI-ASCE Committee 352, Joints and Connections in Monolithic Concrete Structures; the Technical Activities Committee; and ISO/TC 71 Advisory Committee. Wight is also actively involved in the International Advisory Committee and the 318 International Workshop Committee for Structural Concrete in the Americas and Beyond. Through his continuing involvement with ACI committees and the Board, Wight serves as a valuable resource to the Institute. Please plan to attend this event as Professor Wight is recognized for his longtime dedication to ACI, its members, and the concrete industry.

REGISTRATION IS REQUIRED TO ATTEND*. Tickets will be available for purchase on-site, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.*
✓ = **Separate fee required**

Monday, October 27, 2014 6:30 pm – 8:30 pm

123 Forum: Is Roller-Compacted Concrete Ready for the Prime-Time Paving Market?—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators:

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

Thomas Schumacher
Assistant Professor
University of Delaware
Newark, DE

Roller compacted concrete (RCC) has come a long way from its initial application to dams. Decades of practical experience are proving RCC to be a reliable, cost-effective alternative for a variety of paving applications. However, there are potential limitations for RCC and special considerations and equipment may be required.

This forum will discuss the most important questions related to the placement and maintenance of roller-compacted concrete, such as:

- What is the current state of the art in RCC?
- How is RCC different from conventional concrete?
- What are some of the research needs?
- Are adequate laboratory and field testing procedures in place?
- What are the industry/agency/owners' needs? Concerns?
- How is industry responding to the interest in RCC?
- Do we need certification for RCC contractors?
- What does the future hold for RCC?

A panel of experts will debate these questions, and more, to provide the audience information regarding current state of the art and practice, strengths and limitations, and latest developments in RCC. The forum will start with short presentations by each panelist followed by an interactive discussion with the audience. By attending this session, attendees will be able to:
1. Explain the benefits and limitations of RCC pavement;
2. Recognize special requirements of RCC applications;
3. Recognize the needs in the industry and of agencies; and
4. Identify areas of future application of RCC.

Introduction & Bringing the Industry Together—6:30 pm
Wayne Adaska, Director, Pavements, Portland Cement Association, Skokie, IL

Growing Pains of RCC Applications—6:42 pm
Jan Prusinski, Executive Director, Cement Council of Texas, Hurst, TX

An Agency's Perspective—6:54 pm
Celik Ozyildirim, Principal Research Scientist, Virginia Department of Transportation, Charlottesville, VA

Contractor's Perspective—7:06 pm
Will Gray, Managing Partner, A.G. Peltz Group LLC, Irondale, AL

Research Needs—7:18 pm
Norb Delatte, Professor, Cleveland State University, Cleveland, OH

2 AIA/CES LU

Monday, October 27, 2014 7:30 pm – 10:30 pm

✓*Illuminated Monument Tour—DEPART TERRACE-LEVEL LOBBY ENTRANCE $75.00 U.S. per person*

The magical feeling of this illuminated city will give you an entirely new perspective of the nation's capital. Washington is resplendent at night when the monuments shine in the darkness. See the Smithsonian Museums, specifically the Castle, shine with a divine silhouette against the evening sky. From this vantage point the beautifully lit Washington Monument and the U.S. Capitol Building offer incredible photo opportunities. The Jefferson Memorial is a grand homage to the primary author of the Declaration of Independence and one of our founding fathers.
Driving westward, guests will have the chance to stop at the National World War II Memorial, which pays tribute to those who served in the "last great war." Stroll through the National Mall to visit the Lincoln, Vietnam Veterans, and Korean War Veterans Memorials. The Lincoln Memorial is magnificent at night, shimmering in the National Reflecting Pool. See the black granite of the Vietnam Veterans Memorial glow and reflect the etched names of over 58,000 men and women to whom it is dedicated.
The group will also have the opportunity to visit the newest memorial in our nation's capital—the Martin Luther King Jr. Memorial—before returning to the hotel.

Tickets are available for purchase at ACI Registration. ***Tours are nonrefundable.*** *All tours depart from the Lobby Entrance on the Terrace Level.*
✓ = **Separate fee required**

Tuesday, October 28, 2014 5:00 am and 6:00 am

Run/Walk Meet-Up—TERRACE-LEVEL LOBBY ENTRANCE

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. Suggested routes will be available. All are welcome! *Please consult with your physician to determine if you are fit for this type of activity. Run/walk at your own risk.

Tuesday, October 28, 2014 7:30 am – 8:30 am

Media Breakfast—EMBASSY

Join other members of the media to hear about ACI's latest initiatives and publications.

Tuesday, October 28, 2014 8:30 am – 10:30 am

ACI 515.2 Guide to Protective Systems, Part 1 of 2—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committee 515, Protective Systems for Concrete

Moderator: Fred R. Goodwin
Fellow Scientist
BASF Construction Chemicals
Beachwood, OH

The Guide to Protective Systems lists the effects of many chemicals on concrete as well as recommends protective treatment systems against that chemical. This session will demonstrate the use of this document as well as describe the most common treatment types.
By attending this session, attendees will be able to:
1. Demonstrate how to evaluate existing structures for selection of protective systems for concrete;
2. Recognize the types of chemicals that attack concrete;
3. Explain the various methods used to address chemical attack of concrete; and
4. Specify parameters for successful application of protective systems for concrete.

ACI 515.2R Protective Systems for Concrete—8:30 am

Fred R. Goodwin, Fellow Scientist, BASF Construction Chemicals, Beachwood, OH

Silicate Treatments for Concrete—9:00 am

James Vermillion, Technical Engineer, Concrete Polishing & Artistic Staining, Chugiak, AK

Crystalline Modifications of Concrete—9:30 am

Jim A. Caruth, Technical Services Manager, Xypex Chemical Corporation, Richmond, BC, Canada

Dispersion-Based Coatings—10:00 am

H. Peter Golter, Technical Sales Support Manager, 3M, Saint Paul, MN

2 AIA/CES LU

Design of Concrete Structures for Vibration-Sensitive Environments—GEORGETOWN WEST

Sponsored by ACI Committee 351, Foundations for Equipment and Machinery

Session Co-Moderators:

Carl A. Nelson
Vice President
ESI Engineering
Minneapolis, MN

Mukti L. Das
Principal Civil Engineer
MLD Engineering
North Andover, MA

Of interest to engineers, architects, and others involved in the planning, analysis, and design of facilities in which concrete structures (on ground or elevated) will be used to support vibration-sensitive equipment or occupancies. Attendees will gain some appreciation of theory and current practice in this area. Includes hospitals, microscopy facilities laboratories, microelectronic labs, and other sensitive manufacturing facilities.

By attending this session, attendees will be able to:

1. Learn the design criteria for floor vibration for human comfort and sensitive equipment;
2. See the application of vibration theory and measurements to design;
3. Learn the latest trends in concrete building and foundation design for low vibration; and
4. Listen to the experts in this field discuss some of the challenges.

Walking-Induced Vibrations: Bases and Limitations of Evaluation Criteria and Prediction Guides—8:30 am

Eric Ungar, Chief Engineering Scientist, Acentech, Cambridge, MA

High-Frequency Floor Vibration Response to Walking: A New Approach—9:00 am

Thomas M. Murray, Emeritus Professor of Structural Steel Design, Virginia Tech Department of Civil Engineering, Blacksburg, VA; and **Di Liu** and **Brad Davis**, University of Kentucky Civil Engineering Department

Silk Purses Out of Sows' Ears: Concrete Structures for High Technology Research and Manufacturing—9:30 am

Hal Amick, Vice President, Colin Gordon & Associates, Brisbane, CA

Development and Validation of a Footfall-Induced Vibration Methodology Used in the UK—10:00 am

Michael Willford, Principal, Arup, San Francisco, CA

2 AIA/CES LU

Self-Consolidating Concrete for Deep Foundations—CABINET

Sponsored by ACI Committee 237, Self-Consolidating Concrete

Session Co-Moderators:

Anton Schindler
Professor and HRC Director
Auburn University
Auburn, AL

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

Self-consolidating concrete (SCC) offers high flowability throughout the cross section of large foundations, while passing through the congested reinforcement cage. SCC may thus minimize some of the past problems encountered in some deep foundation applications. Presentations in this session will focus on the proportioning, properties, and the use of SCC in deep foundation projects.
By attending this session, attendees will be able to:
1. Explain how SCC may be suitable for use in deep foundations;
2. Discuss how SCC is proportioned for deep foundation applications;
3. Understand the behavior of SCC in deep foundations; and
4. Describe some deep foundation projects where SCC has been used.

Experiences with Self-Consolidating Concrete in Major Drilled-Shaft Construction Projects—8:30 am

Kwang Ro, Geotechnical Engineering Manager, Assistant Vice President, Parsons Brinckerhoff Inc., Lawrenceville, NJ

Self-Consolidating Concrete in Drilled Shafts in Virginia—9:00 am

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

Low-Binder Self-Compacting Concrete for Piling Applications—9:30 am

Olafur H. Wallevik, Manager, Innovation Center Iceland, Reykjavik, Iceland

Overview of Using Self-Consolidating Concrete in Drilled Shafts—10:00 am

Anton Schindler, Professor and HRC Director, Auburn University, Auburn, AL

2 AIA/CES LU

Structural Integrity and Resilience, Part 1 of 2—GEORGETOWN EAST

Sponsored by ACI Committee 377, Performance-Based Structural Integrity & Resilience of Concrete Structures

Session Co-Moderators:

Mehrdad Sasani
Associate Professor
Northeastern University
Boston, MA

Sarah Lynn Orton
Associate Professor
University of Missouri at Columbia
Columbia, MO

The special session will emphasize the integrity and resilience of reinforced concrete and precast/prestressed structures. Modeling issues and techniques for capturing collapse resistance of structures will be discussed. Engineers, building code officials, and researchers will learn about the collapse-resisting mechanisms and detailing, which affect structural integrity and resilience to extreme loading conditions.

By attending this session, attendees will be able to:
1. Identify different collapse-resisting mechanisms and their relative importance in load redistribution after initial damage;
2. Improve their understanding of structural resilience and how to achieve it at community, region, and even country levels;
3. Identify methods for improving collapse resistance and robustness; and
4. Assess likelihood of collapse in reinforced concrete structures.

Re-Examining Design against Progressive Collapse of Reinforced Concrete Building Structures—8:30 am

Bing Li, Professor, Nanyang Technological University, Singapore

Post-Punching Loading Capacity of Flat-Plate Floor Systems—8:50 am

Sarah Lynn Orton, Associate Professor, University of Missouri, Columbia, MO; **Ying Tian**, and **Jinrong Liu**, University of Nevada, Las Vegas; and **Zhonghua Peng**, University of Missouri

Analytical and Experimental Evaluation of Progressive Collapse Resistance of Post-Tensioned Slabs—9:10 am

Leila Keyvani Someh, PhD Student, Northeastern University, Boston, MA; and **Mehrdad Sasani**, Northeastern University

Design of Concrete Flat-Plate Slabs Using New York City Building Code's Structural Integrity Provisions—9:30 am

Ramon Emilio Gilsanz, Partner, Gilsanz Murray Steficek, New York, NY; and **Karl J. Rubenacker** and **Jennifer Lan**, Gilsanz Murray Steficek

Structural Integrity and Resilience of Precast and Prestressed Structures—10:10 am

Jared E. Brewe, EYP, CTLGroup, Skokie, IL; and **Clay J. Naito**, Lehigh University

2 AIA/CES LU

Tuesday, October 28, 2014 9:30 am – 2:00 pm

✓*Private Capitol Collection Tour—DEPART TERRACE-LEVEL LOBBY ENTRANCE $175 U.S. per person*

Enjoy a private tour of the U.S. Capitol building and you will be awed by the Rotunda—the symbolic center of the Capitol—and of the city itself. Visit the Statuary Hall (the original House chamber), the Old Senate chamber, and the Crypt, which was intended to be the final resting place of George Washington. Next, guests will visit the Supreme Court, where nine justices preside in the largest marble building in the world. The Court is in session from October through April, and guests may have the opportunity to witness history in the making in court chambers as cases are heard before a public audience. The last stop is the Library of Congress Thomas Jefferson Building, an elegant neoclassical building lavishly decorated in the spirit of the Gilded Age. The buildings hold the world's largest library and is home to Jefferson's handwritten draft of the Declaration of Independence. Attendees must bring a photo I.D. on this tour.

Tickets are not available for purchase on-site. ***Tours are nonrefundable.*** *All tours depart from the Lobby Entrance on the Terrace Level.*

✓ = **Separate fee required**

Tuesday, October 28, 2014 10:30 am – 11:00 am

Updates to the Completely Reorganized ACI 318-14—GUNSTON EAST

Session Moderator: Randall W. Poston
Principal
Whitlock Dalrymple Poston & Associates
West Lake Hills, TX

The American Concrete Institute's 318, "Building Code Requirements for Structural Concrete" covers the materials, design, and detailing of structural concrete. This reorganization will benefit the entire design and construction community by making the code more intuitive and easier to use, thus providing increased confidence that a design satisfies all code requirements.

Join us for a 30-minute presentation titled "Updates to the Completely Reorganized ACI 318-14," to better understand how the updated code will benefit you professionally; the final stages that occurred prior to the Code's publication; and the resources that ACI has made available to aid in your transition to the new code. Following the presentation, Randall Poston, Chair, ACI Committee 318, will open the floor for a question-and-answer portion, during which they will elaborate on certain topics as they pertain to the audience.

Tuesday, October 28, 2014 11:00 am – 11:30 am

How the New ACI 318-14 Construction Chapter will Impact the Industry—GUNSTON EAST

Session Moderator: Dean A. Browning
Consultant
Charles Pankow Foundation
Vancouver, WA

The organization of previous ACI 318 Codes required a licensed design professional (and to a lesser extent the contractor and supplier) to know where to find the required information scattered throughout the code to complete the design for each structural member. The construction chapter of ACI 318-14 has established the responsibility, direction, format, and intent of the construction documents by explicitly stating the

necessary information and requirements to be completed by the contractor. In this presentation we will discuss how the organization of the new construction chapter in ACI 318-14 was developed and how it may impact the construction industry.

Tuesday, October 28, 2014 11:00 am – 1:00 pm

ACI 515.2 Guide to Protective Systems, Part 2 of 2—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committee 515, Protective Systems for Concrete

Session Moderator: Fred R. Goodwin
Fellow Scientist
BASF Construction Chemicals
Beachwood, OH

The session description and learning objectives for this session may be found in the Part 1 listing; see page 106.

Epoxy Protective Systems—11:00 am
Derek Crawford, Technical Service Manager, Momentive Specialty Chemicals, Mars, PA

Silane and Siloxanes: Organosilicon Treatments—11:30 am
David Selley, Technical Service Specialist, Dow Corning Corporation, Midland, MI

Acrylics, Methyl Methacrylate (MMA), and High-Molecular-Weight Methacrylate (HMWM)—12:00 pm
Richard First, Sales Manager, BASF, Beachwood, OH

Polyurea and Polyurethane—12:30 pm
Todd Gomez, Technical Sales & Marketing Manager, VersaFlex Incorporated, Kansas City, KS

2 AIA/CES LU

Tuesday, October 28, 2014 11:00 am – 1:00 pm

Air Entraining and SCC Frost Durability—GEORGETOWN WEST

Sponsored by ACI Committees 212, Chemical Admixtures, and 237, Self-Consolidating Concrete

Session Co-Moderators: H. Celik Ozyildirim
Principal Research Scientist
Virginia Transportation Research Council
Charlottesville, VA

Lloyd J. Keller
Director
EllisDon Corporation
Mississauga, ON, Canada

The objective of this session is to show the performance characteristics, production management methods, and admixture science for air entraining in SCC. The session will provide a background and strategy for using frostdurable SCC from the perspective of a researcher, producer, and from the suppliers of admixtures.

By attending this session, attendees will be able to:
1. Recognize the types and benefits of admixtures for air entraining for SCC;
2. Choose and select the most appropriate admixture for the different applications;
3. Identify the problems and issues related to maintaining a stable air void structure in SCC; and
4. Use techniques and methods shown in the presentation for production control of air entraining in SCC.

Physical Background of Air-Void Variations during Pumping of SCC—11:00 am
Dimitri Feys, Assistant Professor, Missouri S&T, Rolla, MO; and **Nicolas Roussel**, IFSTTAR

Control of Hardened Air Voids for Production of SCC—11:20 am
Lloyd Keller, Director, EllisDon Corporation, Mississauga, ON, Canada: and **Philip S. Zacarias**, Canada Building Materials CBM

A New Mircrosphere-Based Admixture Provides Freeze-Thaw Durability for Self-Consolidating Concrete—11:40 am
Mark A. Bury, Senior Product Manager, BASF Admixtures Inc., Beachwood, OH

Air-Void Quality of SCC—12:00 pm
G. Terry Harris, Manager of Technical Services-North America, W R Grace & Co, Green Cove Springs, FL; **Robert J. Hoopes**, W R Grace & Co; and **Ara A. Jeknavorian**, Jeknavorian Consulting Services

Managing Air Entrainment and Air Quality of SCC Mixtures—12:20 pm
Ketan R. Sompura, Product Manager, Sika Corporation, Lyndhurst, NJ

Stability of Air Bubbles in Bingham Fluids under Vibration—12:40 pm
David A. Lange, Professor, University of Illinois, Urbana, IL; and **Daniel Castaneda** and **Jeremy Koch**, University of Illinois

2 AIA/CES LU

Tuesday, October 28, 2014 11:00 am – 1:00 pm

Does Size Matter: 4x8s vs. 6x12s? If Not Size, What Does Matter?—CABINET

Sponsored by ACI Committee 214, Evaluation of Results of Tests Used to Determine the Strength of Concrete

Session Co-Moderators:

Allyn C. Luke
Concrete Lab Director
New Jersey Institute of Technology
Newark, NJ

Kal R. Hindo
Principal
Kal R. Hindo & Associates
Clearwater, FL

The objective of this session is to present the research and experience on the relationship between concrete strength assessments based on 6 x 12 and 4 x 8 in. test cylinders. Attendees will learn about the advantages

and disadvantages of each cylinder type, and the differences and the significance of the differences between strength assessments of each type of cylinder type. Attention will be directed toward other measures that may matter more than the size of test specimens.
By attending this session, attendees will be able to:
1. Observe the variations and differences in strength measurements of the "same" concrete using "different" standard size test specimens;
2. Explain the pros and cons of each of the standard test sizes, and whether the physical size of the test specimen or the number of samples constituting a test create significant differences between them for the assessment of the 28-day compressive strength;
3. Relate 28-day compression strength testing and the variability to quality assurance of concrete so that attendees can answer for themselves whether size matters; and
4. Consider factors other than specimen size, such as quality testing and water content controls, that perhaps more significantly affect the production of quality concrete.

How We Got to 4 x 8 in. Cylinders—11:10 am
Rachel Detwiler, Senior Materials Engineer, Precast-Prestressed Concrete Institute, Chicago, IL

The Precision of Strength Tests and the Size Effect—11:32 am
Colin L. Lobo, Vice President of Engineering, NRMCA, Silver Spring, MD

Size Doesn't Matter—11:54 am
Casimir J. Bognacki, Chief of Materials, The Port Authority of New York & New Jersey, New Hyde Park, NY

Control of Water Matters: Accuracy and Precision of the Microwave Test—12:16 pm
Andrew J. Bechtel, Assistant Professor, The College of New Jersey, Ewing, NJ

Quality Testing is What Matters—12:38 pm
Paul St. John, St. John Consulting Services, Glenmont, NY

2 AIA/CES LU

Tuesday, October 28, 2014 11:00 am – 1:00 pm

Structural Integrity and Resilience, Part 2 of 2—GEORGETOWN EAST
Sponsored by ACI Committee 377, Performance-Based Structural Integrity & Resilience of Concrete Structures

Session Co-Moderators:

Mehrdad Sasani
Associate Professor
Northeastern University
Boston, MA

Sarah Lynn Orton
Associate Professor
University of Missouri at Columbia
Columbia, MO

The session description and learning objectives for this session may be found in the Part 1 listing; see page 109.

A Simple Method of Enhancing Disproportionate Collapse Resistance of RC Frames—11:00 am

Yihai Bao, Research Associate, National Institute of Standards and Technology, Gaithersburg, MD; and **H. S. Lew**, **Joseph A. Main**, and **Fahim Sadek**, National Institute of Standards and Technology

Uncertainties in Structural Collapse Mitigation—11:20 am

Shalva M. Marjanishvili, Technical Director, Hinman Consulting Engineers Inc., San Francisco, CA; and **Brian Katz**, Hinman Consulting Engineers, Inc.

Probabilistic Analysis of Reinforced Concrete Structures against Progressive Collapse—11:40 am

JiaLiang Le, Assistant Professor, University of Minnesota, Minneapolis, MN; and **Bing Xue**, University of Minnesota

Resilience of Large-Scale Urban Building Complexes to Natural and Man-Made Hazards—12:00 pm

Malte von Ramin, Research Associate, Fraunhofer Institute for High-Speed Dynamics, EMI, Efringen-Kirchen, Germany; and **Alexander Stolz**, **Oliver Millon**, and **Tassilo Rinder**, Fraunhofer Institute for High-Speed Dynamics

Robustness Assessment of a Plan-Irregular Reinforced Concrete Building Subjected to Mainshock-Aftershock Seismic Sequences—12:20 pm

Andre Belejo, Graduate Student, Oregon State University, Corvallis, OR; and **Andre R. Barbosa**, Oregon State University

2 AIA/CES LU

Tuesday, October 28, 2014 11:30 am – 1:30 pm

✓*Contractors' Day Lunch—INTERNATIONAL BALLROOM WEST*

$62.00 U.S. per person

Coordinated by the Washington, DC, Chapter Convention Committee and the Construction Liaison Committee

Speakers:

Gwyon Nelson
Project Manager
Capital Rail Constructors
Herndon, VA

Keith Couch
Senior Vice President
Clark Construction Group, LLC
Bethesda, MD

Topic: Phase Two of the Dulles Metrorail Extension

Join ACI attendees and local contractors for the Contractors' Day Lunch. Enjoy a special presentation by Keith Couch and Gwyon Nelson, who will present an overview of Phase Two of the Dulles Metrorail Extension with some interesting specifics on the challenges they are facing. 11.4 miles of track is planned to extend from the Reston Town Center at Wiehle Ave to beyond Dulles Airport, just west of Ashburn. This $1.2 billion mega project is one of the area's largest infrastructure projects. Keith joined Clark in 1997 as a Project Manager and led several projects in the Washington, DC, area. Keith is certified by the Design

Build Institute of America as a Designated Design Build Professional and is active at the regional and the national level. Keith is active in the Construction Users Roundtable and in the Society of American Military Engineers, sits on the Clemson University Construction Science and Management Industry Advisory Board, and is an instructor at Clark University. Gwyon joined Kiewit 1992 and has since held various positions, including Field Superintendent and Project Manager. From November 2011, until July 2012, he was assigned a role in assisting the President of Kiewit's Infrastructure Group in "reengineering" the way the Kiewit Corporation does business on over $6 billion in annual construction operations. Most recently, Gwyon was the Principal-in-Charge of estimating, bidding, and project management operations in the Mid-Atlantic region, and today helps lead the $1.1 billion Dulles Corridor Metrorail Project Phase 2. Gwyon brings 27+ years of experience in the construction of heavy civil projects, including major interstates, freeway-to-freeway interchanges, toll roads, drainage systems, and major bridge programs throughout the Southeast and Mid-Atlantic regions.

***PREREGISTRATION IS REQUIRED TO ATTEND**. This lunch is expected to sell out. A very limited number of tickets will be available for purchase on-site by Monday, October 27 at 5 pm, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.*
✓ = **Separate fee required**

Tuesday, October 28, 2014 1:30 pm – 3:30 pm

Celebrating 100 Years of John Joseph Earley and the Earley Studio Work, Part 2 of 2—GEORGETOWN WEST

Sponsored by ACI Committees 120, History of Concrete, and 124, Concrete Aesthetics
Session Moderator: Kimberly Waggle Kramer
Director of Graduate Studies
Kansas City University
Manhattan, KS

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

Meridian Hill Park, Masterwork in Exposed Aggregate: Who Gets Credit?—1:30 pm
Judith M. Capen, Vice President, Architrave P.C., Washington, DC

John Earley's Mosaic Art—Saints, Dinosaurs, and Battle Ships—1:55 pm
Robert F. Armbruster, President, The Armbruster Company Inc., Northbrook, IL

"Everyone is Seeking Security." John Earley and Basil Taylor's Polychrome Houses—2:20 pm
Kimberly Waggle Kramer, Director of Graduate Studies, Kansas State University, Manhattan, KS

Restoration of the Edison Memorial Tower—2:45 pm
Anne E. Weber, Partner, Mills and Schnering Architects, LLC, Princeton, NJ; and **Paul E. Gaudette**, Wiss, Janney, Elstner Associates, Inc.

Current-Day Architectural Concrete—3:10 pm
Larry Rowland, Manager-Marketing Technical Services, Lehigh White Cement Company, Allentown, PA; and **Sidney Freedman**, Precast/Prestressed Concrete Institute

2 AIA/CES LU

Contractors' Day Session: Contract Law, Part 1 of 2—GEORGETOWN EAST

Sponsored by the Washington, DC, Chapter Convention Committee

Session Moderator: Daniel D. Berend
Operations Manager
Facchina Construction Company, Inc.
La Plata, MD

Jussara Tanesi
Concrete Materials Engineer/Lab Manager
SES Group and Associates
McLean, VA

Attorneys, including Stephan F. (Hobie) Andrews, Jeffrey W. Coleman, Christopher Grant, and Gail Kelley, will speak. They will also respond to audience questions in a panel discussion to be held at the conclusion of part 2 of the sessions.

By attending this session, attendees will be able to:

1. Determine how to assess an owner's contract for deal breakers, ambiguous terms, and such key definitions as scope, timing of payment, indemnification, and dispute resolution;
2. Review cases that have established important legal precedents for the construction industry, as well as recent court decisions, and developing trends in construction case law;
3. Explore the various laws that can help contractors ensure they get paid for the materials and services they supply to a project;
4. Identify how and why a contractor's contracts with design professionals differ from normal contractor/subcontractor contracts; and
5. Understand the greatest areas of enforcement risk when performing work on government contracts and how best to minimize those risks through sound internal compliance programs.

Introduction—1:30 pm

Daniel D. Berend, Operations Manager, Facchina Construction Company Inc., La Plata, MD

How to Negotiate Your Contract—1:35 pm

Christopher L. Grant, Attorney, Christopher L. Grant Attorney at Law, Washington, DC

Current Trends in Concrete Case Law—2:10 pm

Jeffrey W. Coleman, Attorney, The Coleman Law Firm LLC, Minneapolis, MN

Making Sure You Get Paid for Your Work—2:45 pm

Gail S. Kelley, Attorney, Design Work, Washington, DC

Questions and Wrap-Up—3:20 pm

Daniel D. Berend, Operations Manager, Facchina Construction Company Inc., La Plata, MD

2 AIA/CES LU

Open Paper Session, Part 1 of 2—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators:

Aaron K. Larosche
Engineer
Whitlock Dalrymple Poston & Associates
Austin, TX

Eric R. Giannini
Assistant Professor
University of Alabama
Tuscaloosa, AL

The Open Paper Session is a forum for presenting recent technical information that could not be scheduled into other convention sessions.
By attending this session, attendees will be able to:
1. Recognize new and emerging materials for civil infrastructures;
2. Demonstrate the various methods to assess the current conditions of structures and how to repair them;
3. Identify recent techniques, research methods, and procedures related to the structural material aspects of concrete; and
4. Explain the behavior of various high-performance cementitious composites.

Predicting Fly Ash Dosage Required to Mitigate Alkali-Silica Reaction per ASTM C1293 Using Extended Chemical Index Model—1:30 pm

Asghar Gholizadeh, PhD Candidate, Pennsylvania State University, University Park, PA; and **Jared Wright** and **Farshad Rajabipour**, Pennsylvania State University

An Accelerated Test Method for Evaluating the Performance of Various Mixtures Susceptible to Chemical Sulphate Attack—1:50 pm

Federico M. Aguayo, PhD Candidate, University of Texas at Austin, Austin, TX; and **Thano Drimalas** and **Kevin J. Folliard**, University of Texas at Austin

Experimental and Thermodynamic Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casting-Host Rock Settings for Uunderground Storage of CO_2—2:10 pm

Chang Li, Graduate Student, Oregon State University, Corvallis, OR; **Vahid Jafari Azad**, **David Rodriguez**, **Jason H. Ideker**, and **O. Burkan Isgor**, Oregon State University; and **Circe Verba**, U.S. Department of Energy

Dynamic Mechanical Properties of Organically Modified Calcium-Silicate-Hydrate Systems—2:30 pm

Rahil Khoshnazar, Visiting Researcher and PhD Candidate, National Research Council/University of Ottawa, Ottawa, ON, Canada; **James Beaudoin**, and **Laila Raki**, National Research Council; and **Rouhollah Alizadeh**, Giatech Scientific, Inc.

Direct Three-Dimensional Observations of the Dissolution and Subsequent Hydration of C_3S—2:50 pm

Qinang Hu, Graduate Student, Oklahoma State University, Stillwater, OK; and **Tyler Ley**, **Mahammad Aboustait**, and **Jay Hanan**, Oklahoma State University

Physico-Chemical Interaction between Mineral Admixtures and an OPC-CSA Cement System: Implication on Expansion—3:10 pm
Piyush Chaunsali, PhD Candidate, University of Illinois, Urbana, IL; and **Paramita Mondal**, University of Illinois

2 AIA/CES LU

Tuesday, October 28, 2014 1:30 pm – 3:30 pm

Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 2 of 3—CABINET

Sponsored by ACI Committee 345, Concrete Bridge Construction, Maintenance, and Repair; Joint ACI-ASCE Committee 343, Concrete Bridge Design; and ACI Committee 201, Durability of Concrete.

Session Co-Moderators:

Yail Jimmy Kim
Associate Professor
University of Colorado Denver
Denver, CO

Baolin Wan
Associate Professor
Marquette University
Milwaukee, WI

Isamu Yoshitake
Associate Professor
Yamaguchi University
Yamaguchi, Japan

The session description and learning objectives for this session may be found in the Part 1 listing; see page 102.

Sustainable Earthquake-Resistant Design of Hollow Bridge Columns Using Low-Cost Fiber-Reinforced Cement Composites—1:30 pm
Myoungsu Shin, Assistant Professor, Ulsan National Institute of Science and Technology, Ulsan Metropolitan City, South Korea; and **Seong Woo Gwon** and **MinYoung Son**, Ulsan National Institute of Science and Technology

Monitoring of the 205 ft Precast Girders of the Alaskan Way Viaduct in Seattle, WA—1:50 pm
Sameh S. Badie, Associate Professor, George Washington University, Washington, DC; **Bijan Khaleghi**, Washington State Department of Transportation; **David Chapman**, CEC LLC; and **Stephen J. Seguirant**, Concrete Technology Corp

Using GFRP Reinforcing Bar as a Cost-Effective Solution to Extend the Service Life of New and Replacement Bridge Decks: A Case Study of the I-635 Bridge Deck Replacement for the Kansas Department of Transportation—2:10 pm
Ryan Koch, FRP Applications Engineer, Hughes Brothers, Seward, NE; and **Jon Karst**, GBA

Reducing Deck Cracking in Composite Bridges by Controlling Shrinkage and Creep Properties—2:30 pm

Fatmir Menkulasi, Assistant Professor, Louisiana Tech University, West Monroe, LA; **Thomas E. Cousins** and **Carin L. Roberts Wollmann**, Virginia Tech University; and **Doug Nelson**, Figg Engineering Group

Analytical Modeling of Reinforced Concrete Beams Strengthened with Mechanically Fastened Fiber-Reinforced Polymers (MFFRP)—2:45 pm

Gordon Salisbury, Student, Widener University, Chester, PA; and **Vicki Brown**, Widener University

Sustainable Bridges through the Use of Arches—3:10 pm

Sreejith Nanukuttan, Lecturer, Queen's University, Belfast, United Kingdom; **Adrian Long**, and **Barr Rankini**, Queen's University; **Muhammed Basheer**, University of Leeds; and **Abhey Gupta**, FlexiArch Bridges for Macrete Ireland

2 AIA/CES LU

Tuesday, October 28, 2014 4:00 pm – 6:00 pm

Contractors' Day Session: Contract Law, Part 2 of 2—GEORGETOWN EAST

Sponsored by the Washington, DC, Chapter Convention Committee

Session C0-Moderators:

Daniel D. Berend
Operations Manager
Facchina Construction Company, Inc.
La Plata, MD

Jussara Tanesi
Concrete Materials Engineer/Lab Manager
SES Group and Associates
McLean, VA

The session description and learning objectives for this session may be found in the Part 1 listing; see page 116.

Introduction—4:00 pm

Jussara Tanesi, Concrete Materials Engineer/Lab Manager, SES Group and Associates, McLean, VA

Contracts with Design Professionals: Do the Rules Differ from Subcontractors?—4:05 pm

Stephan F. Andrews, Attorney, Vandeventer Black LLP, Richmond, VA

Avoiding False Claims Act Liability and Other Federal Enforcement Pitfalls—4:40 pm

Benjamin B. Tymann, Attorney, Greenberg Traurig, Boston, MA

Panel Discussion—5:15 pm

Edward S. Kluckowski, Vice President, Freyssinet Inc., Winchester, VA

2 AIA/CES LU

Open Paper Session, Part 2 of 2—INTERNATIONAL BALLROOM EAST

Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators:

Aaron K. Larosche
Engineer
Whitlock Dalrymple Poston & Associates
Austin, TX

Eric R. Giannini
Assistant Professor
University of Alabama
Tuscaloosa, AL

The session description and learning objectives for this session may be found in the Part 1 listing; see page 117.

Freeze-Thaw and Scaling Resistance of Calcium Silicates based Carbonated Concretes—4:00 pm

Hyungu Jeong, Graduate Student, Purdue University, West Lafayette, IN, **Jan Olek**, Purdue University; and **Jitendra Jain, Deepak Ravikumar**, and **Vahit Atakan**, Research and Development, Solidia Technologies

Comparison of Ultrasonic Imaging Techniques for Reinforced Concrete: Tomography vs. SAFT—4:20 pm

Hajin Choi, PhD Candidate, University of Illinois, Urbana, IL; and **John S. Popovics**, University of Illinois

Investigation of Collapsed Steel Reinforcing Cage for a Fixed Column—4:40 pm

Jinesh Mehta, Structural Materials Rep, California Department of Transportation, Los Angeles, CA; and **Divyesh Vora**, and **Jennifer Olarte**, California Department of Transportation

Experimental Investigation of FRCM-Concrete Joints Subject to Fatigue and Post-Fatigue Quasi-Static Monotonic Loadings—5:00 pm

Christian Carloni, Associate Professor, University of Hartford, West Hartford, CT; **Lesley H. Sneed**, Missouri S&T; and **Tommaso D'Antino** and **Carlo Pellegrino**, University of Padova

Seismic Time-History Analysis of Frames Using Nonlinear Fiber Elements with Shear—5:20 pm

Serhan Guner, Assistant Professor, Ryerson University, Toronto, ON, Canada; and **Frank J. Vecchio**, University of Toronto

Repair of RC Bridge Columns with Fractured Bars Using Pocketed Externally Bonded Prefabricated Laminates—5:40 pm

Lesley H. Sneed, Assistant Professor, Missouri S&T, Rolla, MO; **Yang Yang**, Missouri S&T; **M. Saiid Saiidi**, University of Nevada; **Adbeldjelil Belarbi**, University of Houston; and **Mo Ehsani**, QuakeWrap, Inc.

2 AIA/CES LU

Self-Consolidating Concrete for Precast/Prestressed Applications—GEORGETOWN WEST

Sponsored by ACI Committees 237, Self-Consolidating Concrete, and 423, Prestressed Concrete

Session Co-Moderators:

Anton Schindler
Professor and HRC Director
Auburn University
Auburn, AL

Robert W. Barnes
Associate Professor
Auburn University
Auburn, AL

The hardened properties and performance of self-consolidating concrete (SCC) developed for use in precast prestressed applications will be discussed. Presentations will specifically focus on SCC mechanical properties, durability, time-dependent behavior, structural behavior, and case studies that document the use of SCC in full-scale precast prestressed applications.

By attending this session, attendees will be able to:

1. Explain how SCC can be used in precast/prestressed applications;
2. Discuss how SCC is proportioned for precast/prestressed applications;
3. Understand the engineering properties of SCC used in this application; and
4. Describe some projects where SCC has been used in precast/prestressed applications.

Engineering Properties of Sustainable High-Performance Self-Consolidating Concrete for Precast/Prestressed Applications—4:00 pm

Van K. Bui, Senior Project Engineer, BASF Construction Chemicals, Cleveland, OH

A Review of Creep and Shrinkage of Self-Consolidating Concrete for Prestressed Applications—4:24 pm

Royce W. Floyd, Assistant Professor, University of Oklahoma, Norman, OK

Hardened Properties of Self-Consolidating Concrete for Bridge Girders—4:48 pm

Samuel Keske, Student, Auburn University, Smiths, AL

Precast Prestressed Concrete Truss Using Self-Consolidating Concrete—5:12 pm

George Morcous, Associate Professor, University of Nebraska-Lincoln, Omaha, NE

A Probabilistic Model for Predicting Early-Age Creep Deformation of Self-Consolidating Concrete Members—5:36 pm

Young Hoon Kim, Assistant Professor, University of Louisville, Louisville, KY

2 AIA/CES LU

Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 3 of 3—CABINET

Sponsored by ACI Committee 345, Concrete Bridge Construction, Maintenance, and Repair; Joint ACI-ASCE Committee 343, Concrete Bridge Design; and ACI Committee 201, Durability of Concrete

Session Co-Moderators:

Yail Jimmy Kim
Associate Professor
University of Colorado Denver
Denver, CO

Baolin Wan
Associate Professor
Marquette University
Milwaukee, WI

Isamu Yoshitake
Associate Professor
Yamaguchi University
Yamaguchi, Japan

The session description and learning objectives for this session may be found in the Part 1 listing; see page 102.

New Approach for Predicting the Progress of Reinforcement Corrosion in the Propagation Period of Concrete Members Suffering Chloride-Induced Damage—4:00 pm

Masaru Yokota, Senior Researcher, Shikoku Research Institute Inc., Takamatsu Kagawa, Japan; **Manabu Matsushima**, Kagawa University; **Kousaku Matsuda**, Shikoku Research Institute Inc.; and **Kouji Asakura**, Yonden Engineering Consultants

Assessment Criterion for Early Corrosion Detection in Prestressed Concrete Based on Polarization Resistance—4:20 pm

William Velez, PhD Student, University of South Carolina, Columbia, SC; and **Fabio Matta**, University of South Carolina

Finite Element Modeling of RC Beams Strengthened with Prestressed NSM-CFRP Strips Subjected to Severe Environmental Conditions—4:40 pm

Raafat El-Hacha, Associate Professor, University of Calgary, Calgary, AB, Canada; and **Hamid Y. Omran**, University of Calgary

Use of Self-Consolidating Concrete (SCC) and High-Volume Fly Ash Concrete (HVFAC) for a Bridge Implementation—5:00 pm

Eli S. Hernandez, Graduate Research Assistant, Missouri S&T, Rolla, MO; **John J. Myers**; and **Alexander Griffin**, Missouri S&T

Transverse Cracking in Bridge Deck on Rte 15 over the James River—5:20 pm

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

2 AIA/CES LU

Tuesday, October 28, 2014 5:30 pm – 6:30 pm

Faculty Network Reception—INTERNATIONAL BALLROOM WEST

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

Tuesday, October 28, 2014 6:30 pm – 8:30 pm

Concrete Mixer—INTERNATIONAL BALLROOM CENTER

Sponsored by ACI Washington, DC, Chapter Convention Committee
Join ACI attendees and guests for an evening of networking, and great food during the Concrete Mixer, held at the Washington Hilton. An assortment of food and beverages will be available.

Wednesday, October 29, 2014 5:00 am and 6:00 am

Run/Walk Meet-Up—TERRACE-LEVEL LOBBY ENTRANCE

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. Suggested routes will be available. All are welcome!
*Please consult with your physician to determine if you are fit for this type of activity. Run/walk at your own risk.

Wednesday, October 29, 2014 8:00 am – 12:00 pm

Concrete Sustainability Forum—Sustainability, Resilience, and Innovation—INTERNATIONAL BALLROOM EAST

FREE to registered convention attendees
Sponsored by ISO/TC 71/SC 8, Environmental Management for Concrete and Concrete Structures, and ACI Committee 130, Sustainability of Concrete

Session Co-Moderators:

Koji Sakai
Representative
Japan Sustainability Institute
Sapporo, Japan

Julie K. Buffenbarger
Construction Specialist
Lafarge
Medina, OH

ACI's seventh Concrete Sustainability Forum will update attendees on the evolving landscape of concrete sustainability and structural resilience. Examples of new sustainable and innovative concrete technologies from around the globe will be highlighted. An overview of current code activities from the American Concrete Institute, *fib*, and other international concrete organizations will be presented, followed by a panel discussion on the integration of sustainable and resilient theories into plans, projects, and international codes.

The Forum will be followed by a Luncheon with keynote speaker Henry Green, President, National Institute on Building Sciences. Docent and curator-led tours of the "Designing for Disaster" exhibit at the U.S. National Building Museum will follow the Luncheon.
The Forum is free to registered ACI Convention attendees. However, a $40 payment and separate registration is required to attend the Luncheon and Tour, that includes transportation to/from the National

Building Museum and entrance to the National Building Museum and the "Designing for Disaster" exhibit. Participants not registered for the ACI Convention can participate in the Forum, Luncheon, and Museum tour for an all-inclusive registration fee of $90.

By attending this session, attendees will be able to:

1. Understand how codes from leading standards-developing organizations across the globe are providing engineers, researchers, and designers with resources to effectively incorporate concrete into green and sustainable projects;
2. Understand the current status of ACI Committee 130's sustainability report and ACI's sustainability efforts;
3. Identify innovations that have been used in the concrete industry and construction community through low-carbon and carbon-utilization concrete; and
4. Understand how to ensure/improve the resilience of infrastructure and buildings in response to climate change, natural disasters, and other impacts.

Introduction—CSF History and Lessons—8:00 am
Koji Sakai, Representative, Japan Sustainability Institute, Sapporo, Japan

ACI Committee 130's Sustainability Report—8:15 am
Julie K. Buffenbarger, Construction Specialist, Lafarge, Medina, OH

Sustainability in *fib* Model Code 2010—8:40 am
Koji Sakai, Representative, Japan Sustainability Institute, Sapporo, Japan

Development of New Materials for Low-Carbon Cement and Concrete System—9:05 am
Etsuo Sakai, Associate Professor, Tokyo Institute of Technology, Ichikawashi, Japan

Break—9:30 am

Breakthrough Product Innovations in the Cement Industry to Reduce Carbon Footprint—9:45 am
Laurent Barcelo, Manager, Strategic Projects & Scientific Network, Lafarge, Pointe Claire, QC, Canada

Beneficial Carbon Dioxide Use in Concrete Production—10:10 am
Sean Monkman, VP Technology Research, CarbonCure Technologies, Halifax, NS, Canada

FHWA's Sustainable Pavements Program—10:35 am
Gina M. Ahlstrom, Concrete Pavement Engineer, Federal Highway Administration, Washington, DC

Withstand the Storm with Resilient Buildings and Communities—11:00 am
Donn C. Thompson, Manager Residential Technology, Portland Cement Association, Skokie, IL

Panel Discussion—11:25 am
Koji Sakai, Representative, Japan Sustainability Institute, Sapporo, Japan; and **Julie K. Buffenbarger**, Lafarge

2 AIA/CES LU

Wednesday, October 29, 2014 8:00 am – 12:00 pm

✓ *John J. Earley Architectural Concrete—Centennial Review and Guided Tour—DEPART TERRACE LEVEL LOBBY ENTRANCE*

$25.00 U.S. per person

Architectural Concrete & ACI pioneer John J. Earley left a legacy of distinctive work throughout the United States, but nowhere more than in Washington, DC. This tour will take you on a guided motor coach tour with stops to visit outstanding Earley Studio projects in the nation's capital. Bryan Blundell will tell the history of John J. Earley's innovation and highlight distinctive features at Meridian Hill Park, the Shrine of the Sacred Heart, and the Franciscan Monastery of the Holy Land in America. These spectacular projects illustrate the revolutionary work done in concrete nearly 100 years ago. You will be amazed by concrete's resilience and aesthetic durability.

Tickets are available for purchase at ACI Registration. ***Tours are nonrefundable.*** *All tours depart from the Lobby Entrance on the Terrace Level.*

✓ = **Separate fee required**

Wednesday, October 29, 2014 8:30 am – 10:30 am

Advances in Pervious Concretes—CABINET

Sponsored by ACI Committee 522, Pervious Concrete

Session Co-Moderators:

Narayanan Neithalath
Associate Professor
Arizona State University
Tempe, AZ

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

To disseminate the advances that have happened in the field of pervious concretes, in material design, proportioning, properties, standards development, and field applications.
By attending this session, attendees will be able to:
1. Learn about the recent advances in pervious concretes;
2. Specify pervious concretes for appropriate applications;
3. Understand the field implementation methods for pervious concretes; and
4. Understand the sustainability implications of pervious concretes.

Effects of Silica Fume on Pervious Concrete Performance and Durability—8:30 am

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

Development of Portable Devices for Characterizing the Workability of Pervious Concrete—8:50 am

Betiglu Jimma, Student, Clemson University, Central, SC

Fracture Response of Pervious Concretes—9:10 am

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

Observations of Corrosion of Reinforcement in Pervious Concrete: Laboratory Results Inspired by Field Performance—9:30 am
George W. Seegebrecht, Senior Evaluation, Concrete Consulting Engineers LLC, Westchester, IL

Overview and Recap of ACI's Pervious Concrete Student Competition—9:50 am
Walter H. Flood IV, Manager-Engineer, Flood Testing Labs Inc., Chicago, IL

Development of a New Test Method for Determining the Surface Infiltration Rate of Permeable Unit Pavement Systems—10:10 am
Heather J. Brown, Chair & Professor, Middle Tennessee State University, Murfreesboro, TN

2 AIA/CES LU

Wednesday, October 29, 2014 8:30 am – 10:30 am

Cast-in-Place Concrete Pipe—GEORGETOWN WEST

Sponsored by ACI Committee 346, Cast-in-Place Pipe

Session Co-Moderators:

Carlos Moreira
Civil Engineer
Hidrulica Ambiental
Monterrey, Mexico

Curtiss W. Gilley
President
Terrain Engineering, Inc.
Davis, CA

The development, approval, and adoption of ACI 346, "Specification for Cast-in-Place Concrete Pipe," represents a milestone for the concrete pipe industry, proving that it can be a fast and cost-effective solution for water conduction.
By attending this session, attendees will be able to:
1. Recognize where and why ACI 346 can be applied;
2. Understand how a CIPCP behaves under low fill;
3. Understand some of the basic equations for CIPCP design; and
4. Understand when and why the two-stage CIPCP is still in use.

Application and Use of the 346R-09 Spec—8:30 am
Alfred L. Kaufman, Manager Technical Services, Concreterx, Walnut Creek, CA

Sonoqui Wash Drainage Improvements—8:50 am
Gordon Bluth, President, Blucor Contracting Inc., Queen Creek, AZ

The Double Tree Ranch Road—9:10 am
Benan N. Zahawi, Senior Structural Engineer, Stantec Consulting, Salt Lake City, UT

Design of Cast-in-Place Concrete Pipe Using Roark Equations—9:30 am
Eric T. Moran, Senior Bridge Engineer, Hatch Mott MacDonald, Orangevale, CA

Two-Stage Cast-in-Place Concrete Pipe—9:50 am
Carlos Moreira, Civil Engineer, Hidraulica Ambiental, Monterrey, NL, Mexico

2 AIA/CES LU

Wednesday, October 29, 2014 8:30 am – 10:30 am

Improving Early-Age Properties of Concrete with SCMs, Part 1 of 2—INTERNATIONAL BALLROOM WEST

Sponsored by ACI Committees 212, Chemical Admixtures; 231, Properties of Concrete at Early Ages; 232, Fly Ash in Concrete; and 233, Ground Slag in Concrete

Session Co-Moderators:

Jussara Tanesi
Concrete Materials Engineer/Lab Manager
SES Group and Associates
McLean, VA

Wayne M. Wilson
Senior Technical Service Engineer
Holcim US Inc.
Suwanee, GA

Increasing focus on global warming and environmental sustainability has prompted much industry research on the increased use of supplementary cementitious materials (SCMs) as a partial replacement of portland cement in concrete. Using higher SCM volumes in concrete often results in practical early-age field application issues such as extended initial set, very slow early-strength development, excessive bleeding, poor hydration kinetics, and so on.

By attending this session, attendees will be able to:

1. Understand the effects of SCMs on early-age concrete properties;
2. Learn how to overcome the adverse effects of SCMs on early-age concrete properties;
3. Learn about test methods for measuring early-age concrete properties with SCMs; and
4. Understand how to adjust concrete mixtures to enhance early-age concrete properties with SCMs.

Anticipating and Adjusting Setting Times of High-Volume Fly Ash Mixtures—8:30 am
Dale P. Bentz, Chemical Engineer, National Institute of Standards and Technology, Gaithersburg, MD

Mixture Proportioning Guidelines for Mixtures Incorporating Supplementary Cementitious Materials for Improving Early-Age Concrete Properties—9:00 am
Ezgi Yurdakul, Concrete Scientist, Verifi, LLC, Cambridge, MA; **Halil Ceylan**, Iowa State University; and **Peter C. Taylor**, CP Tech Center

Extending the Interaction Efficiency and Practical Use of SCMs in Concrete through the Use of Portland-Limestone Cement—9:30 am
Tim Cost, Senior Technical Service Engineer, Holcim (US) Inc., Canton, MS

Using the Maturity Method for High-Volume Fly Ash Concretes—10:00 am
Karthik H. Obla, Managing Director of Research & Materials Engineering, NRMCA, Silver Spring, MD; **Anton Schindler**, Auburn University; and **Haejin Kim**, Turner-Fairbank Highway Research Center, FHWA

2 AIA/CES LU

UHPC Behavior under Blast and Impact Load Effects, Part 1 of 2—GEORGETOWN EAST

Sponsored by ACI Committees 239, Ultra-High Performance Concrete, and 370, Blast and Impact Load Effects

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

Although man-made or natural blast and impact load effects subject our infrastructure less often than other load effects under service conditions, the consequences and damage on our society and economy can be tremendous. Ultra-high-performance concrete (UHPC) is currently seen as the most valuable material innovation in the construction industry in the 21st century. UHPC is a preferable construction material to sustain blast and impact load effects due to its superior strength, durability, ductility, and energy dissipation capacity. Due to its complexity in testing and analysis, one of the most critical knowledge gaps still remains to be filled in the United States is the behavior of UHPC structures subjected to blast and impact load effects. The urgent need for strengthening and retrofitting the aging U.S. infrastructure will potentially be addressed by using UHPC in structural elements or for structural element connections. It is critical to conduct research and to share information in this field to facilitate the application of the material. The session will invite national research groups to share their knowledge in UHPC material and structural performances under blast and impact load effects. The ACI convention at Washington has been chosen for this topic due to its tight relationship to the government, which is responsible for the security and health of the nation's people.

By attending this session, attendees will be able to:

1. Learn about UHPC material properties and structural behavior;
2. Recognize the performance and resiliency of UHPC under blast and impact loading;
3. Learn about innovations to enhance the performance and link laboratory investigations with on-site applications; and
4. Realize the importance of blast and impact resistance of construction materials for the nation's infrastructure.

A Preliminary Investigation of UHPC at High Strain Rates Using the Spilt-Hopkinson Pressure Bar—8:30 am

Theresa M. Ahlborn, Associate Professor, Michigan Technological University, Houghton, MI

Use of Ultra-High-Performance Concrete to Mitigate Impact and Explosive Threats—8:55 am

John J. Myers, Professor, Missouri S&T, Rolla, MO; and **Julie Willey**, Missouri S&T

Strain Rate Dependency of UHPC under Direct Tensile Loading—9:20 am

Kay Wille, Assistant Professor, University of Connecticut, Storrs, CT; and **Mandy Xu**, University of Connecticut

High Strain Rate Response of UHPC in Direct Tension—9:45 am

Sherif El-Tawil, Associate Professor, University of Michigan, Ann Arbor, MI; and **Sukhoon Pyo**, University of Michigan

Performance of Ultra-High-Performance Fiber-Reinforced Concrete Structural Components under Shock-Tube Loading—10:10 am
Hassan Aoude, Assistant Professor, University of Ottawa, Ottawa, ON, Canada

2 AIA/CES LU

Wednesday, October 29, 2014 11:00 am – 1:00 pm

Advances in Nondestructive Evaluation Methods for Bridge Condition Assessment—CABINET

Sponsored by ACI Committees 228, Nondestructive Testing of Concrete; 342, Evaluation of Concrete Bridges and Bridge Elements, and the Washington, DC, Chapter Convention Committee

Session Co-Moderators:
Marco Legaluppi
Associate
Whitney Bailey Cox & Magnani LLC
Baltimore, MD

Thomas Collins
Northeast Sales Representative
Separation Technologies
New Oxford, PA

The use of NDE methods to evaluate the concrete properties and location of reinforcing and other embedded items is continuously evolving. This session will review the latest technologies available in nondestructive testing and examinations of bridges for a variety of purposes.
By attending this session, attendees will be able to:
1. Identify NDE methods for location of reinforcement, tendon ducts, and other structural elements in bridges using by automated systems;
2. Understand advances in automated data collection and performance of NDE systems;
3. Recognize developments in recent applied research of NDE methods for bridge superstructure and substructure investigations; and
4. Learn to defect localization using combined methods, ground-penetrating radar, and ultrasonic pulse echo.

Bridge Superstructure and Substructure Condition Assessment with NDE Methods—11:00 am
Larry Olson, President, Olson Engineering, Manassas, VA

Performance and Automation of NDE Technologies for Condition Assessment of Concrete Bridge Decks—11:30 am
Nenad Gucunski, Professor, Rutgers, the State University of New Jersey, Piscataway, NJ

Automated Multi-Method NDE of Bridges—12:00 pm
Herbert Wiggenhauser, Director & Professor, BAM—Federal Institute for Materials Research and Testing, Berlin, Germany

NDE Methods for Bridge Superstructure and Substructure Including the MIRA and Other Technologies—12:30 pm

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

2 AIA/CES LU

Wednesday, October 29, 2014 11:00 am – 1:00 pm

Concrete with Recycled Materials, Part 1 of 2—GEORGETOWN WEST

Sponsored by ACI Committee 555, Concrete with Recycled Materials

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

Concrete with recycled materials (CRMs) provide sustainability in several different ways. The simple act is the reduction of the amount of materials that must be landfilled. However, the production of portland cement, an essential constituent of concrete, leads to the release of significant amount of CO_2, a greenhouse gas; one ton of portland cement clinker production is said to create approximately one ton of CO_2 and other greenhouse gases. Reuse of post-consumer wastes and industrial by-products in concrete is necessary to produce even greener concrete. Use of coal ash, rice-husk ash, wood ash, natural pozzolans, ground-granulated blast-furnace slag, silica fume, and other similar pozzolanic materials can reduce the use of manufactured portland cement clinker and, at the same time, produce concrete that is more durable. Greener concrete also improves air quality, minimizes solid wastes, and leads to sustainable cement and 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.

Eco-Mechanical Performances of Concrete Made with Recycled Aggregates—11:00 am

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

Concrete with Steel-Furnace-Slag-Fractionated Reclaimed Asphalt Pavement: Properties and Expansion Potential—11:17 am

Alexander Brand, PhD Candidate, Department of Civil and Environment Enginering, University of Illinois at Urbana-Champaign, Urbana, IL

Fresh, Mechanical, and Durability Characteristics of Self-Consolidating Concrete Incorporating Recycled Concrete Aggregate—11:34 am

Yasser Khosdair, Assistant Professor, Bradley University, Peoria, IL

Structural Performance of Fly-Ash-Based Concretes Containing Pulverized Glass Aggregates—11:51 am
Michael Patrick Berry, Assistant Professor, Montana State University, Bozeman, MT

A 1-Year Investigation of Self-Consolidating Concrete with Recycled Asphalt Pavement—12:08 pm
Ahmed Ibrahim, Assistant Professor, Parks College of Engineering, Aviation & Technology, Saint Louis, MO

Synergistic Effect of Recycled Waste Glass Aggregate and Finely Ground Glass Powder to Improve Durability of Mortar and Concrete—12:25 pm
Kaveh Afshinnia, Student, Clemson University, Clemson, SC; and **Prasad R. Rangaraju**, Clemson University

Development of Fully Recycled Portland-Cement-Free Mortars Using Binary Combinations of Recycled Glass, Lime, Blast-Furnace Slag, and Fly Ash—12:42 pm
Farshad Rajabipour, Assistant Professor, Pennsylvania State University, University Park, PA; and **Hamed Maraghechi** and **Stephen B. Salwocki**, Pennsylvania State University

2 AIA/CES LU

Wednesday, October 29, 2014 11:00 am – 1:00 pm

Improving Early-Age Properties of Concrete with SCMs, Part 2 of 2—INTERNATIONAL BALLROOM WEST

Sponsored by ACI Committees 212, Chemical Admixtures; 231, Properties of Concrete at Early Ages; 232, Fly Ash in Concrete; and 233, Ground Slag in Concrete

Session Co-Moderators:
Jussara Tanesi
Concrete Materials Engineer/Lab Manager
SES Group and Associates
McLean, VA

Wayne M. Wilson
Senior Technical Service Engineer
Holcim US Inc.
Suwanee, GA

The session description and learning objectives for this session may be found in the Part 1 listing; see page 127.

Preliminary Research on Development of Surface Resistivity as a Function of Heat Evolution—11:00 am
Aaron Crowley, Graduate Research Assistant, Civil and Environmental Engineering, Tennessee Technological University, Cookeville, TN; and **L. K. Crouch** and **Daniel Badoe**, Tennessee Technological University

Effect of Low-Dosage Alkali on Early-Age Hydration Kinetics of High-Volume Supplementary Cementitious Materials (HVSCMs)—11:30 am

Sulapha Peethamparan, Assistant Professor, Clarkson University, Potsdam, NY; and **Tesfamichael Ze Yehdego**, Clarkson University

The Influences of Calcium Nitrate Admixture on Reaction, Setting, and Strength Evolutions in Cementitious Materials—12:00 pm

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

Influence of Silica Fume and Metakaolin on the Early-Age Performance of Portland Cement/Fly Ash Concrete—12:30 pm

Dr. Samuel Olufemi Folagbade, Lecturer, Obafemi Awolowo University, IleIfe, Nigeria

2 AIA/CES LU

Wednesday, October 29, 2014 11:00 am – 1:00 pm

UHPC Behavior under Blast and Impact Load Effects, Part 2 of 2—GEORGETOWN EAST

Sponsored by ACI Committees 239, Ultra-High Performance Concrete, and 370, Blast and Impact Load Effects

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; see page 128.

Feedbacks on Impact and Blast Testing Using Ductal UHPC—11:00 am

Dominique Corvez, UHPC/Ductal North America, Lafarge North America Inc., Chicago, IL

Tensile Properties of High-Performance Cement Composites under High Strain Rates—11:25 am

Barzin Mobasher, Professor, Arizona State University, Tempe, AZ; and **Yiming Yao**, Arizona State University

Simulation of UHPC under High-Strain-Rate Compressive Loading—11:50 am

Man Xu, PhD Student, University of Connecticut, Storrs, CT; and **Kay Wille**, University of Connecticut

Experimental and Finite Element Analysis of UHPC Specimens Subjected to Impact Loading—12:15 pm

Khaled A. El-Domiaty, Structural Lead Supervisor, Baker Engineering & Risk Consultants, Arlington, VA; **Jason R. Florek** and **Allison Yu**, Baker Engineering & Risk Consultants, Inc.; and **Michael Riley**, Hipertex Armor Group, LLC

Discrete Modeling of Ultra-High-Performance Concrete with Application to Projectile Penetration—12:40 pm

Gianluca Cusatis, Assistant Professor, Northwestern University, Evanston, IL; and **Jovanca Smith**, Northwestern University

2 AIA/CES LU

Wednesday, October 29, 2014 12:00 pm – 5:00 pm

✓Concrete Sustainability Forum Lunch and Designing for Disaster Exhibition Tour—COLUMBIA 9-12
$40.00 U.S. per person
Lunch 12:00 pm – 1:30 pm
Tours 1:30 pm – 5:00 pm

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

Speaker: Henry Green
President
National Institute on Building Sciences
Washington, DC

Topic: Resilience: It's a Concrete Notion

A luncheon will be held featuring a talk with keynote speaker Henry Green, President, National Institute on Building Sciences, who will share his insight on the importance of resilience in making our infrastructure safer, more secure, and able to protect us against natural disasters. Following the lunch, participants will be taken to the U.S. National Building Museum for curator-led tours of the limited-time-only "Designing for Disaster" exhibit. Examine how we assess risks from natural hazards and how we can create policies, plans, and designs yielding safer, more disaster-resilient communities. Tours will run every 30 minutes on the hour and half-hour and buses will be available to take participants to the museum and back to the hotel.

PREREGISTRATION IS REQUIRED TO ATTEND*. Tickets will be available for purchase on-site, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.*

✓ = Separate fee required

Concrete with Recycled Materials, Part 2 of 2—GEORGETOWN WEST

Sponsored by ACI Committee 555, Concrete with Recycled Materials

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

The session description and learning objectives for this session may be found in the Part 1 listing; see page 130.

Flexural Behavior of Reinforced Concrete Beams Incorporating Construction and Demolition Waste—1:30 pm

Ardavan Yazdanbakhsh, Assistant Professor, The City College of New York, New York, NY

High-Strength Recycled Aggregate Concrete (RAC)—1:47 pm

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

How Recycled Glass, Paper, and Rubber Can Be Used to Make Ready Mix Concrete Sustainable (It Works)—2:04 pm

Frank A. Kozeliski, Materials Engineer/Consultant, Kozeliski Consulting LLC, Gallup, NM

Internal Curing with Crushed Returned Concrete Aggregates for High-Performance Concrete—2:21 pm

Haejin Kim, Research Engineer, Turner-Fairbank Highway Research Center, FHWA, McLean, VA

A Review of the Applicability of Concrete Durability Test Methods for Use with Recycled Concrete Aggregates—2:38 pm

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

Re-Use of Slag in Portland-Cement-Free Concrete—2:55 pm

Hailong Ye, Research Assistant, Pennsylvania State University, State College, PA

Ternary Mixtures with Carbonate Waste Fines for Sustainable Concrete Pavements—3:12 pm

Matthew Dominick D'Ambrosia, Senior Engineer, CTLGroup, Skokie, IL

2 AIA/CES LU

Fatigue in Plain and Reinforced Concrete—INTERNATIONAL BALLROOM WEST

Sponsored by ACI Committee 215, Fatigue of Concrete

Session Co-Moderators:

Mario Cristian Gaedicke Hornung
Assistant Professor
California State University, East Bay
Hayward, CA

Rania Al-Hammoud
Assistant Professor
University of Minnesota Duluth
Duluth, MN

This session will present recent developments in applications of fatigue in concrete. The papers included in this session will particularly focus on fatigue of reinforced concrete structures and infrastructure. This session is oriented toward practitioners, faculty, and students who are using fatigue to assess the structural integrity and design of concrete structures under repeated loading.
By attending this session, attendees will be able to:
1. Recognize the importance of fatigue in the design and structural performance evaluation of concrete structures;
2. Learn about recent developments in methods to model the fatigue of conventional reinforced concrete, fiber-reinforced concrete, and glass fiber-reinforced polymer concrete;
3. Learn about applications of fatigue to evaluate the performance of reinforced concrete infrastructure and pavements; and
4. Identify areas of further research where the application of fatigue could improve the design and performance of concrete structures.

An Introduction to Fatigue of Concrete—1:30 pm

Clifford N. MacDonald, Director of Engineering, FORTA Corporation, Inver Grove Heights, MN

Fatigue in Concrete Pavements—1:50 pm

Mario Cristian Gaedicke Hornung, Assistant Professor, California State University East Bay, Hayward, CA

Fatigue Behavior of Corroded Reinforced Concrete Beams—2:10 pm

Rania Al-Hammoud, Assistant Professor, University of Minnesota Duluth, Duluth, MN; and **Khaled A. Soudki** and **Timothy Topper**, University of Waterloo

Fatigue of Concrete Reinforced with Fibers—2:30 pm

Clifford N. MacDonald, Director of Engineering, FORTA Corporation, Inver Grove Heights, MN

Fatigue of Concrete with GFRP Reinforcement—2:50 pm

Martin Noël, Postdoctoral Fellow, Queen's University, North York, ON, Canada; and **Khaled A. Soudki**, University of Waterloo

Fatigue Behavior of GFRP Reinforced Precast Concrete Underground Chambers—3:10 pm

Hamdy Mohamed, PhD Student, University of Sherbrooke, Sherbrooke, QC, Canada; and **Brahim Benmokrane** and **Michael M.G. Guerin**, University of Sherbrooke

2 AIA/CES LU

International Advances in Concrete Pavement—GEORGETOWN EAST

Sponsored by ACI Committee 325, Concrete Pavements

Session Co-Moderators:

Peter C. Taylor
Associate Director
CP Tech Center
Ames, IA

Juan Pablo Covarrubias
General Manager
TCPavements, Ltd.
Santiago, Chile

The objective of the session is to allow an opportunity for practitioners from around the world to share innovative ideas of how to design, build, and maintain concrete pavements that are long-lasting and sustainable.

By attending this session, attendees will be able to:

1. Describe innovations in international concrete pavement construction;
2. Compare variations in practices among countries around the world with respect to concrete pavement construction;
3. Discuss challenges to concrete pavement construction in countries without an established industry; and
4. Compare practices between developed and developing economies.

Evolution in the Art and Science of Concrete Paving—1:30 pm

Gordon L. Smith, Construction Engineer, Iowa Concrete Paving Association, Ankeny, IA

Concrete Pavements in Europe—1:55 pm

Suneel N. Vanikar, Team Leader, FHWA Office of Asset Management, Pavement & Construction, Washington, DC

Concrete Pavements in Emerging Countries: India and Brazil Case Studies—2:20 pm

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

Concrete and Roller-Compacted Concrete Pavement Applications in Turkey—2:45 pm

Ismail Ozgur Yaman, Professor, Middle East Technical University, Ankara, Turkey

2 AIA/CES LU

The Life Cycle of Concrete Pavements around the World—Overlays, Pervious, Parking Lots, and Roads—CABINET

Sponsored by ACI Committees 228, Nondestructive Testing of Concrete; 342, Evaluation of Concrete Bridges and Bridge Elements, and the Washington, DC, Chapter Convention Committee

Session Co-Moderators:

Aniruddha Chatterjee
Structural Engineer
STV Inc.
Baltimore, MD

William W. Rafferty
Tech Services Manager
Swope & Associates
Chambersburg, PA

The use of concrete paving continues to be expanded in the United States and around the world. This session will explore the design and use of concrete as a paving material in the United States and around the globe, as well as provide examples of concrete overlay projects in the local Maryland/Virginia region. Additionally, maintenance of pervious pavements will be discussed and MIT will discuss their findings on life-cycle cost analysis for pavements.

By attending this session, attendees will be able to:

1. Gain an understanding of pavement types and the reason one type is selected over another;
2. Gain an understanding of life-cycle considerations of different pavement types;
3. Understand the sustainable features of different pavement types; and
4. Learn the simplified thickness design methods based on subgrade support, concrete strength, and traffic loadings.

Life-Cycle Cost Analysis for Design and Maintenance of Concrete Pavements—1:30 pm

Jeremy Gregory, Research Engineer, Massachusetts Institute of Technology, Cambridge, MA

Considerations for the Design and Construction of Concrete Parking Lots; Do's and Don'ts for a Successful Project—1:50 pm

Robert E. Neal, Technical Services Engineer, Lehigh Portland Cement Co, Richmond, VA

Concrete Pavements around the World and in the United States—2:10 pm

Henry B. Prenger, Director of Technical Services, Lafarge, Baltimore, MD

Concrete Overlays in Maryland—2:30 pm

Shekhar Murkute, PAGD Design Team Leader, Maryland State Highway Administration Pavement and Geotechnical Division, Hanover, MD

Concrete Overlays in Virginia—2:50 pm

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

Restoring Infiltration of Pervious Concrete—3:10 pm

David C. Mitchell, Teacher, Bunyan Industries, Salt Lake City, UT

2 AIA/CES LU

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Session Attendance Tracking Form for the ACI Fall 2014 Convention

Washington, DC
October 26-30, 2014

Use this form to track your attendance at ACI sessions. This form may be accepted by state boards that allow self-reporting of continuing education activities as evidence of participation. In most cases, 1 contact hour is equal to 1 Professional Development Hour (PDH). Check with your state board for acceptance criteria.

Instructions: Fill in your name, e-mail address, and telephone number below. Check off each session you attend. If a state where you are licensed requires a certificate of attendance, please record the three PDH codes given throughout each session in the boxes provided. You must attend the entire session and sign this form to receive your certificate(s). After you have attended your final session, submit this form to the registration desk located in Columbia 5-8 at the Washington Hilton. You may also fax this form to ACI at +1.248.848.3792, or e-mail it to Eva Korzeniewski (emk@concrete.org). You must attend the entire session and sign this form to receive your certificate(s). The deadline to submit this form to ACI is November 17, 2014.

Name (please print): _____

By my signature, I attest that I have attended the entire duration of each of the sessions indicated on this form (signature): _____

E-mail address (please print): _____

Telephone number: _____

If you are a licensed Professional Engineer in Florida and would like ACI to report your hours to the Florida state board or you are an Architect and would like ACI to report your hours to AIA, please provide your license number below.

Florida PE No.: _____

Architecture license No.: _____

Sunday, October 26, 2014

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

Three PDH Codes for the selected session:

- ❑ Aggregate Optimization and Packing (211/236/238) _____
- ❑ Lightweight Self-Consolidating Concrete Research and Applications (213/237) _____
- ❑ Structural Health Monitoring of Concrete Structures (Durability), Part 1 of 6 (444/209/222/348/365/435/343/441) _____
- ❑ Toward Sustainable Infrastructure with Fiber-Reinforced Polymer Composites, Part 1 of 2 (440/440-F/440-H/440-L)

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

- ❑ Emerging Technologies in Civil Infrastructure (SDC) _____
- ❑ James K. Wight: A Tribute from His Students and Colleagues, Part 1 of 3 (318/352) _____
- ❑ Structural Health Monitoring of Concrete Structures (Durability), Part 2 of 6 (444/209/222/348/365/435/343/441)
- ❑ Toward Sustainable Infrastructure with Fiber-Reinforced Polymer Composites, Part 2 of 2 (440/440-F/440-H/440-L)

Sunday, October 26, 2014 cont.

Three PDH Codes for the selected session:

8:00 PM-10:00 PM **2 PDH**

- ❑ Hot Topic Session: Teaching with the New ACI 318-14: A Session for Educators (HTC)

Monday, October 27, 2014

8:30 AM-10:30 AM (Select <u>one</u> session) **2 PDH**

- ❑ Design and Construction Challenges of Atypical RC Columns (441)
- ❑ Novel Characterization Techniques and Advanced Cementitious Materials: Tribute to James J. Beaudoin, Part 1 of 2 (236)
- ❑ Research in Progress, Part 1 of 2 (123)
- ❑ Structural Health Monitoring of Concrete Structures (Durability), Part 3 of 6—Tribute to Richard Weyers (444/209/222/345/348/365/435/343/441)

11:00 AM-1:00 PM (Select <u>one</u> session) **2 PDH**

- ❑ In-Situ Transport Measurements (228/236)
- ❑ Novel Characterization Techniques and Advanced Cementitious Materials: Tribute to James J. Beaudoin, Part 2 of 2 (236)
- ❑ Research in Progress, Part 2 of 2 (123)
- ❑ Structural Health Monitoring of Concrete Structures (Serviceability), Part 4 of 6 (444/209/222/348/365/435/343/441)

1:30 PM-3:30 PM (Select <u>one</u> session) **2 PDH**

- ❑ Celebrating 100 Years of John Joseph Earley and the Earley Studio Work, Part 1 of 2 (120/124)
- ❑ James K. Wight: A Tribute from His Students and Colleagues, Part 2 of 3 (318/352)
- ❑ Lessons from the Past We Can Use Today (International Advisory Committee/120/E702)
- ❑ Structural Health Monitoring of Concrete Structures (Serviceability), Part 5 of 6 (444/209/222/348/365/435/343/441)

4:00 PM-6:00 PM (Select <u>one</u> session) **2 PDH**

- ❑ James K. Wight: A Tribute from His Students and Colleagues, Part 3 of 3 (318/352)
- ❑ Service-Life Modeling—Case Studies and Validation (365)
- ❑ Structural Health Monitoring of Concrete Structures (Serviceability), Part 6 of 6 (444/209/222/348/365/435/343/441)
- ❑ Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 1 of 3 (345/343/201)

Three PDH Codes for the selected session:

Monday, October 27, 2014 cont.

6:30 PM-8:30 PM **2 PDH**

- ❑ 123 Forum: Is Roller-Compacted Concrete Ready for the Prime Time Paving Market? (123)

Tuesday, October 28, 2014

8:30 AM-10:30 AM (Select <u>one</u> session) **2 PDH**

- ❑ ACI 515.2 Guide to Protective Systems, Part 1 of 2 (515)
- ❑ Design of Concrete Structures for Vibration-Sensitive Environments (351)
- ❑ Self-Consolidating Concrete for Deep Foundations (237)
- ❑ Structural Integrity and Resilience, Part 1 of 2 (377)

11:00 AM-1:00 PM (Select <u>one</u> session) **2 PDH**

- ❑ ACI 515.2 Guide to Protective Systems, Part 2 of 2 (515)
- ❑ Air Entraining and SCC Frost Durability (212/237)
- ❑ Does Size Matter: 4x8s vs. 6x12s? If Not Size, What Does Matter? (214)
- ❑ Structural Integrity and Resilience, Part 2 of 2 (377)

1:30 PM-3:30 PM (Select <u>one</u> session) **2 PDH**

- ❑ Celebrating 100 Years of John Joseph Earley and the Earley Studio Work, Part 2 of 2 (120/124)
- ❑ Contractors' Day Session: Contract Law, Part 1 of 2 (Washington, DC, Chapter Convention Committee)
- ❑ Open Paper Session, Part 1 of 2 (123)
- ❑ Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 2 of 3 (345/343/201)

4:00 PM-6:00 PM (Select <u>one</u> session) **2 PDH**

- ❑ Contractors' Day Session: Contract Law, Part 2 of 2 (Washington, DC, Chapter Convention Committee)
- ❑ Open Paper Session, Part 2 of 2 (123)
- ❑ Self-Consolidating Concrete for Precast/Prestressed Applications (237/423)
- ❑ Sustainable Performance of Concrete Bridges and Elements Subject to Aggressive Environments: Monitoring, Evaluation, and Rehabilitation, Part 3 of 3 (345/343/201)

Wednesday, October 29, 2014

Three PDH Codes for the selected session:

8:00 AM-12:00 PM **4 PDH**

- ❑ Concrete Sustainability Forum—Sustainability, Resilience, and Innovation (ISO/TC 71/SC 8/130)

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

- ❑ Advances in Pervious Concretes (522)
- ❑ Cast-in-Place Concrete Pipe (346)
- ❑ Improving Early-Age Properties of Concrete with SCMs, Part 1 of 2 (212/231/232/233)
- ❑ UHPC Behavior under Blast and Impact Load Effects, Part 1 of 2 (239/370)

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

- ❑ Advances in Nondestructive Evaluation Methods for Bridge Condition Assessment (228/342/Washington, DC, Chapter Convention Committee)
- ❑ Concrete with Recycled Materials, Part 1 of 2 (555)
- ❑ Improving Early-Age Properties of Concrete with SCMs, Part 2 of 2 (212/231/232/233)
- ❑ UHPC Behavior under Blast and Impact Load Effects, Part 2 of 2 (239/370)

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

- ❑ Concrete with Recycled Materials, Part 2 of 2 (555)
- ❑ Fatigue in Plain and Reinforced Concrete (215)
- ❑ International Advances in Concrete Pavement (325)
- ❑ The Life Cycle of Concrete Pavements around the World—Overlays, Pervious, Parking Lots, and Roads (228/342/Washington, DC, Chapter Convention Committee)

Daily PDH Totals:

Total Completed on Sunday, 10/26/14 _____

Total Completed on Monday, 10/27/14 _____

Total Completed on Tuesday, 10/28/14 _____

Total Completed on Wednesday, 10/29/14 _____

Total Number of PDHs Completed _____

Please submit this form to the registration desk, located in Columbia 5-8 at the Washington Hilton, at the conclusion of the final session you attend. You may also fax this form to ACI at +1.248.848.3792, or e-mail to Eva Korzeniewski (emk@concrete.org).

The deadline to submit this form to ACI is November 17, 2014. You will receive your certificate(s) by December 1, 2014. Please ensure you have filled out the correct e-mail address on this form, as that is where your certificate(s) will be sent.

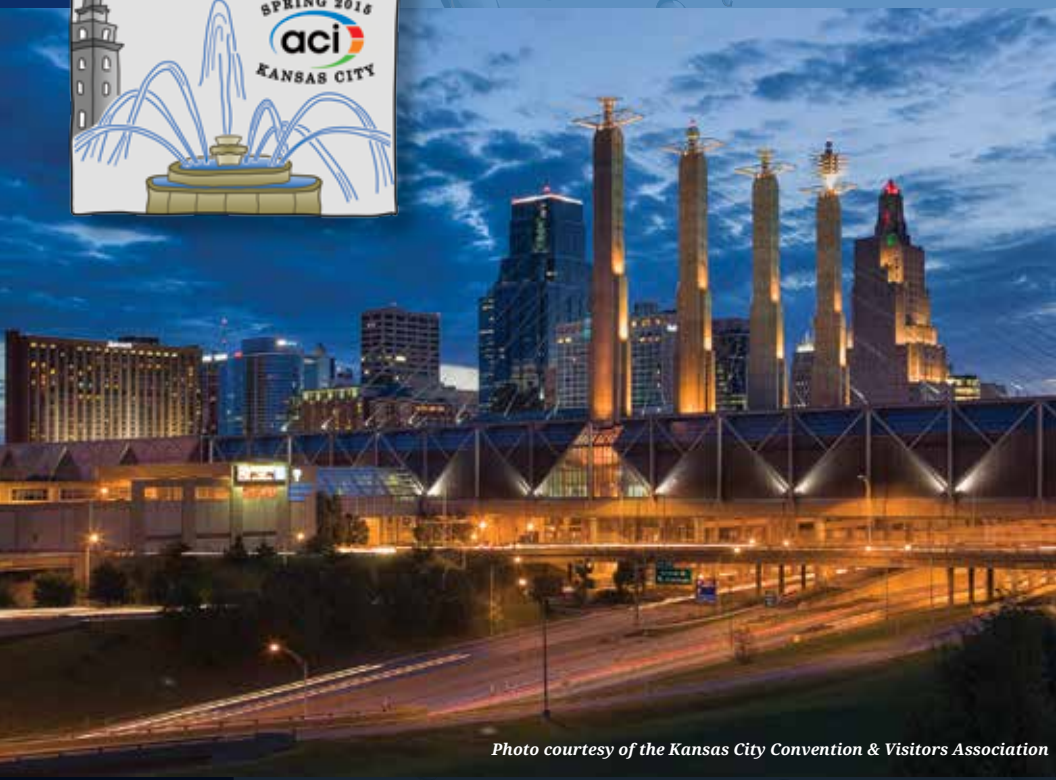

Photo courtesy of the Kansas City Convention & Visitors Association

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APRIL 12-15, 2015

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KANSAS CITY, MO

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April 12-15, 2015
Marriott & Kansas City Convention Center
Kansas City, MO

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Constructability
November 8-12, 2015
Sheraton
Denver, CO

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

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