



Spring 2017 | Detroit

The Concrete Convention and Exposition

PROGRAM BOOK



March 26-30, 2017

Detroit Marriott at the Renaissance Center

Convention Sponsors

Sponsors are listed as of 3/7/17

Concrete Sponsor



Barton Malow Company



Greater Michigan Chapter – ACI

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Baker Concrete Construction

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BASF Corporation



The Euclid Chemical Company



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Rocky Mountain Chapter – ACI
San Diego Chapter – ACI
Soils & Structures, Inc.
Southern California Chapter – ACI
Superior Materials
Testing Engineers & Consultants, Inc.

Greater Michigan Chapter Convention Committee

Committee Co-Chairs

John Perry, Edward C. Levy Co.
Tony Johnson, Concrete Reinforcing Steel Institute

Student Program

Mike Livernois, Amalio Corporation
David Hollingsworth, Michigan Concrete Association
Ricky Gallegos, GM and Sons

Publicity and Social Program

Casey Coffin, Barton Malow Company
Marshall Grazioli, Hubbell, Roth, & Clark, Inc.

Guest Program

Kerry Sutton, Michigan Concrete Association

Contractors' Day

Chad Nienhuis, Granger Construction
Russ Bennett, Professional Services Industries, Inc.
Jeff Krupcale, Superior Materials, LLC

At Large

Chris Carnacchi, GRT – Mapei Admixtures
Jeremy Chesterfield, McCoig Materials, LLC
David Evangelista, Barton Malow Company
Mario Garza, Barton Malow Company
Jason Harris, General Motors – Global Facilities
Tom McCurry, Doan Companies
Mike McKown, Premiere Concrete Admixtures, LLC
Bill West, Testing Engineers and Consultants, Inc.

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Download the
Convention
App!



Search "ACI Convention" on
your Apple or Android device.

Detailed program information and program changes
can be found in the Convention App!

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ACI President's Welcome

ACI Members and Guests:

On behalf of myself and ACI, it is a pleasure to welcome you to Detroit, MI, and The ACI Concrete Convention and Exposition—the largest concrete convention in the Midwest!



We're so glad you're here with us in Detroit for what promises to be our best and most memorable convention yet. We've packed all 5 days with rousing committee meetings, unforgettable events, thought-provoking sessions, and the chance to meet amazing people from all over the world working together to improve the concrete industry.

None of this could be possible without the aid and support from our amazing exhibitors and sponsors. Anyone who is wearing an exhibitor badge or sponsor ribbon has played an integral role in the success of this convention. Please be sure to thank them while at the convention and stop by their booths to see the newest products and services on the market today.

ACI and the Greater Michigan Chapter Convention Committee designed the convention to have something for everyone, whether you are just starting to explore these issues or are already a seasoned expert. So dive in to the sessions, soak up the speeches, contribute in committee meetings, and don't forget to save a little energy for the Concrete Mixer being held at the Henry Ford Museum of American Innovation.

The Greater Michigan Chapter Convention Committee has put a great deal of effort into developing a convention program that is both notable and productive. Please join me in thanking them by stopping by the host chapter desk during your time at the ACI Convention.

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

Kind Regards,

A handwritten signature in cursive script that reads "Mike".

Michael J. Schneider
ACI President

Sign up for Concrete SmartBrief

The smart way to stay on top of concrete industry news.

Created by SmartBrief in partnership with ACI, Concrete SmartBrief provides a daily e-mail snapshot of the concrete industry with news from leading global sources. Summaries of what matters to you, written by expert editors, save you time and keep you informed and prepared.

Welcome to Concrete SmartBrief; sign up at:

www.smartbrief.com/ACI

ACI Sustaining Members

 Advanced Construction Technology Service
 American Society of Concrete Contractors
 Ash Grove Cement Co.
 Baker Concrete Construction, Inc.
 BARRIER ONE INCORPORATED HIGH PERFORMANCE CONCRETE ADMIXTURE
Barrier-1 Inc.
 The Chemical Company BASF Corporation
 Bauman Landscape & Construction
 The Science You Build On. Braun Intertec Corporation
 Cantera Concrete Company
 CHRYSO, Inc.
 Concrete Reinforcing Steel Institute
 Curecrete Distribution Inc.

 Dayton Superior Corporation
 Ductilcrete Slab Systems, LLC
 The Euclid Chemical Co.
 Fibercon International, Inc.
 FUTURE TECH CONSULTANTS Construction Materials Engineering, Inspection & Testing Services Future Tech Consultants
 GCP Applied Technologies
 Headwaters Resources, Inc.
 WHERE RELATIONSHIPS ARE BUILT KCS Construction LLC
 Keystone Structural Concrete LLC
 Bright People. Right Solutions. Kleinfelder
 BE SLAB OF KRYTON Kryton International Inc.
 LafargeHolcim (US) Inc.
 Lithko Contracting, Inc.

 Meadow Burke Products LLC
 W. R. Meadows, Inc.
 Metromont Corporation
 Minova USA, Inc.
 MODERN TECHNOLOGY LABORATORIES MTL
 Multiquip
 MUNICIPAL TESTING Municipal Testing
 NORTH S. TARR CONCRETE CONSULTING PC North S.Tarr Concrete Consulting PC
 Oztec Industries, Inc.
 Pacific Structures
 Penetron International Ltd.
 Portland Cement Association

 Precast/Prestressed Concrete Institute
 Riggs Companies
 S K Ghosh Associates, Inc.
 Saudi Building Code National Committee
 Seretta Construction Inc.
 Sika Corporation
 Go Green Specialty Products Group Specialty Products Group, Inc.
 STRUCTURAL
 Structural Services, Inc.
 Tekna Chem
 TWC Concrete Services, LLC TWC Concrete Services LLC
 Wacker Neuson

General Information

For detailed program information and program changes, download the Convention App.

Convention App

Download the ACI Convention App and have all the information you need for the week ahead at your fingertips. Updated schedules, exhibitor and sponsor information, and more are all available through the app. Search “ACI Convention” on your Apple or Android device. This app will be used again for the convention this fall in Anaheim, CA.

Schedule Changes

Cancellations, additions, and location changes to the convention schedule will be posted daily on a monitor in the exhibit area, as well as in the convention app.

Exhibit Hall Refreshments—H-ONTARIO EXHIBIT HALL

Beverages are available courtesy of ACI during the following hours:

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

ACI Store—H-ONTARIO EXHIBIT HALL

Visit the ACI Store to receive 10% off ACI publications. To learn more about the new ACI membership benefits and how to become a member, visit the ACI Store. The ACI Store is open during the following hours:

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

ACI University—A new global and online learning resource providing on-demand access to a wide range of topics on concrete materials, design, and construction. Learn more at the ACI University booth, located near the ACI Store.

ACI Foundation—A nonprofit subsidiary of ACI that facilitates industry research, collaboration, and student fellowships/scholarships. Learn more at the ACI Foundation booth, located near the ACI Store.

Career Center—ACI’s online job search engine is specifically designed to target jobs in the industry. Learn more at the Career Center, located near the ACI Store.

ACI Cyber Café and Meeting Spot— H-ONTARIO EXHIBIT HALL

Stop by the ACI Cyber Cafe and Meeting Spot—the perfect place to stay connected with work and family or network with ACI attendees during refreshment breaks. Use the computers to browse the web, print on demand, or catch up on email.

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

Looking for Exercise?

Meet up with other ACI attendees in the **FIRST-FLOOR MOTOR LOBBY** at the Marriott before heading out for your morning run or walk. Local area maps are available at the hotel concierge desk. All are welcome.

Sunday – Wednesday	5:00 am and 6:00 am
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Morning yoga classes will be offered in the **FITNESS CENTER** at the Marriott for those who are interested in putting a little balance into a hectic week. Led by ACI Marketing Committee Chair and yoga teacher Kimberly Kayler, this intro to yoga class requires no experience. Registration is not required and a limited quantity of yoga mats will be provided.

Tuesday – Wednesday 6:00 am – 6:45 am

**Please consult your physician to determine if you are fit for this type of activity. Run/walk at your own risk.*

Session Handouts on Demand

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

Suitcasing

Attendees, sponsors, or exhibitors found to be “suitcasing” (soliciting business in session and committee meeting rooms, aisles, or the booth of another exhibitor) will be asked by staff to cease this practice. Should this continue, they will be asked to leave the show floor immediately and will forfeit any exhibitor points earned for that show.

Local Information—H-ONTARIO EXHIBIT HALL

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

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

Detroit Marriott at the Renaissance Center

Volt Restaurant

Hours: Monday – Thursday 6:30 am – 12:00 am;
Friday – Saturday 6:30 am – 1:00 am

Starbucks

Hours: Monday - Thursday 6:00 am – 5:00 pm;
Friday 6:00 am – 4:00 pm; Saturday 7:00 am – 12:00 pm;
Sunday 8:00 am – 12:00 pm

Room Service

Hours: Monday – Sunday 6:30 am – 11:00 am and 5:00 pm – 11:00 pm

Additional restaurants are available within the Renaissance Center. Visit www.gmrencen.com/dining to view the restaurant options and hours.

General Information

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.



Earn CEUs/PDHs for Session Attendance

Attend the entire duration of a session and record the codes given out during the session using the spaces provided next to the session details in the program book. In most cases, one contact hour is equal to one Professional Development Hour (PDH). Check with your state board for acceptance criteria. **Please note: ACI does not track and cannot provide documentation confirming attendee participation or attendance at any ACI session held during the convention.**

For attendance certificates:

1. Visit www.concrete.org and sign in.
2. Hover over **My ACI** and click on **My ACI CEU/PDH**.
3. Select the convention, day, and title of the session for which you are submitting session codes.
4. After successfully submitting the session codes, your certificate will be available under the session title.

If you earned a certificate for a session and would like ACI to report your CEUs/PDHs to the Florida Board of Professional Engineers or AIA, e-mail your Professional Engineer's or Architecture license number to Eva Korzeniewski at emk@concrete.org.

Speaker Ready Room—H-AMBASSADOR COAT ROOM

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 their presentations have been uploaded and work properly on the ACI computers.

The Concrete Convention and Exposition

Fall 2017 | Anaheim, CA—H-ONTARIO EXHIBIT HALL



Mark your calendars for The Concrete Convention and Exposition in Anaheim, CA, October 15-19, 2017, at the Disneyland Hotel. Stop by the Southern California Chapter Convention Committee desk Saturday through Tuesday to learn more about the convention!

aci

Career Center

Featuring hundreds of job postings specifically targeted to the concrete industry by employers across the country and around the world.

The ACI Career Center brings great opportunities and great candidates together.

www.concrete.org/careercenter



Spring 2017 | Detroit

The Concrete Convention
and Exposition

THANK YOU FOR JOINING US!

Welcome to the ACI Concrete Convention and Exposition in downtown Detroit. ACI members can see the rebirth of Detroit first hand during your stay here at the aptly named Detroit Renaissance Center, providing itself a canvas of the structural and architectural wonders of concrete as a building material.

So, what better way to witness this inspiring resurgence of one of the world's greatest cities than by your attendance here at the ACI Concrete Convention and Exposition. We hope that you enjoy your time with the rest of the concrete design, construction and supply industry while you're staying in our great city.



John Perry and Tony Johnson
ACI GMC Convention Co Chairs

Stop by the chapter desk to find out more about becoming a member of the ACI Greater Michigan Chapter or contact Tony Johnson at (630) 380-5969 or tjohnson@crsi.org.



Where's That Meeting Room?

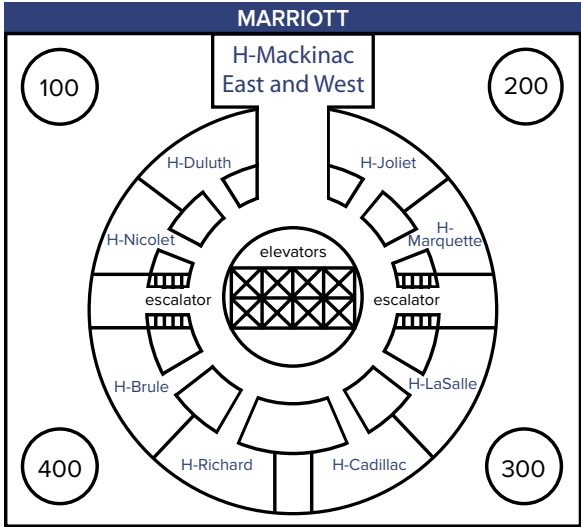
H = Marriott Hotel GM = GM Learning Center

R = Renaissance Conference Center

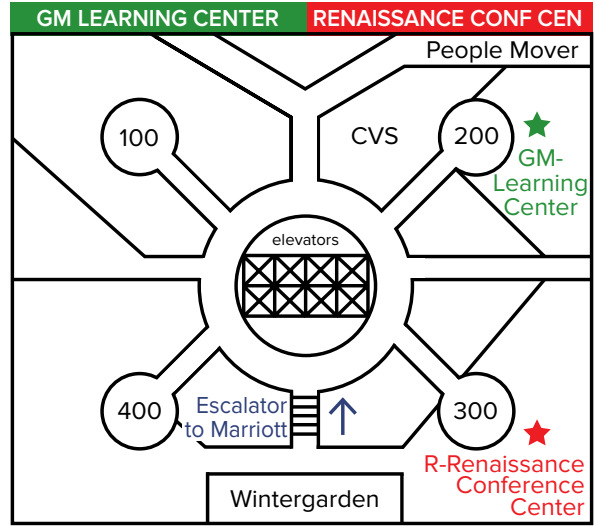
Room Name	Location
H-MOTOR LOBBY	Level 1
H-AMBASSADOR COAT ROOM	Level 3
H-AMBASSADOR FOYER	Level 3
H-AMBASSADOR SALON 1	Level 3
H-AMBASSADOR SALON 2	Level 3
H-AMBASSADOR SALON 3	Level 3
H-Ontario Exhibit Hall	Level 3
H-VOLT RESTAURANT	Level 3
H-CABOT	Level 4
H-CARTIER	Level 4
H-COLUMBUS	Level 4
H-DA VINCI	Level 4
H-GRECO	Level 4
H-MICHELANGELO	Level 4
H-MONET	Level 4
H-RAPHAEL	Level 4
H-RENOIR	Level 4
H-BRULE A	Level 5
H-BRULE B	Level 5
H-CADILLAC A	Level 5
H-CADILLAC B	Level 5
H-DULUTH A	Level 5
H-DULUTH B	Level 5
H-JOLIET A	Level 5
H-JOLIET B	Level 5
H-LASALLE A	Level 5
H-LASALLE B	Level 5
H-MACKINAC EAST	Level 5
H-MACKINAC WEST	Level 5
H-MARQUETTE B	Level 5
H-NICOLET A	Level 5
H-NICOLET B	Level 5
H-RICHARD A	Level 5
H-RICHARD B	Level 5
GM-TRAINING ROOM 5	Level 2
GM-TRAINING ROOM 6	Level 2
GM-TRAINING ROOM 9	Level 2
GM-TRAINING ROOM 10	Level 2
GM-TRAINING ROOM 12	Level 2
GM-TRAINING ROOM 13	Level 2
GM-TRAINING ROOM 14	Level 2
GM-TRAINING ROOM 15	Level 2
GM-TRAINING ROOM 16	Level 2
GM-TRAINING ROOM 17	Level 2
GM-TRAINING ROOM 18	Level 2
R-BEAUBIEN	Level 2
R-JEFFERSON	Level 2
R-WATERFRONT	Level 2

Renaissance Center Maps

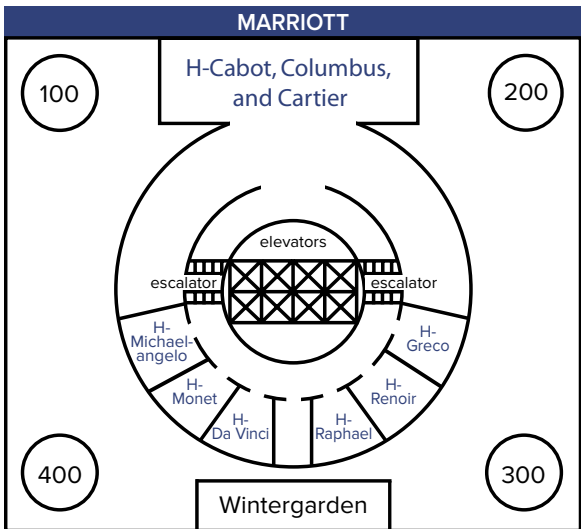
H = Marriott Hotel GM = GM Learning Center R = Renaissance Conference Center



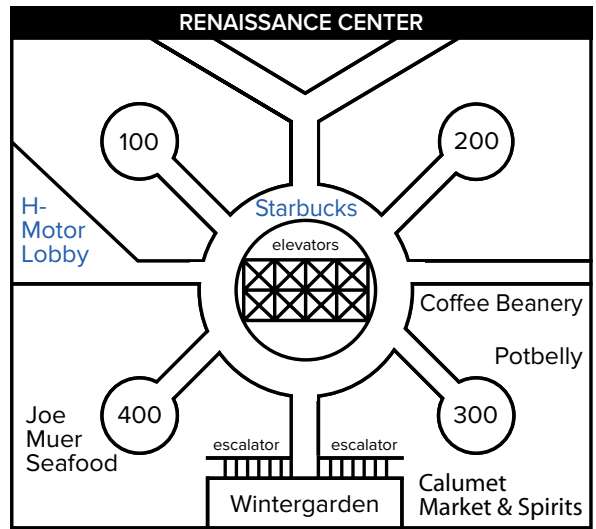
Level 5



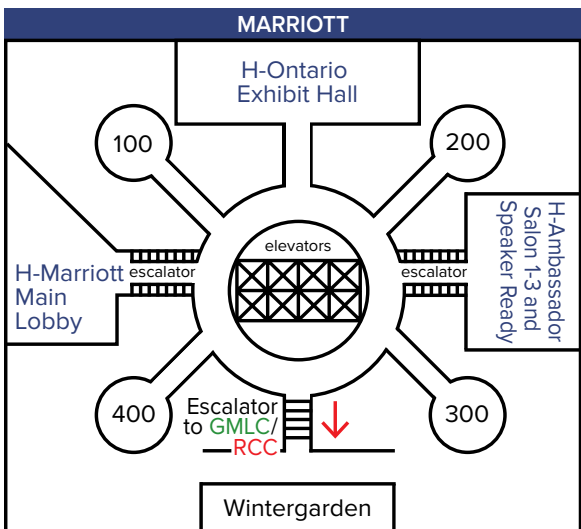
Level 2



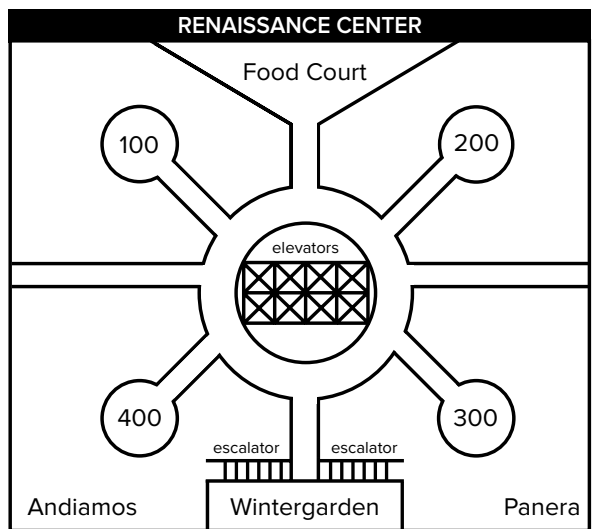
Level 4



Level 1



Level 3



Level A

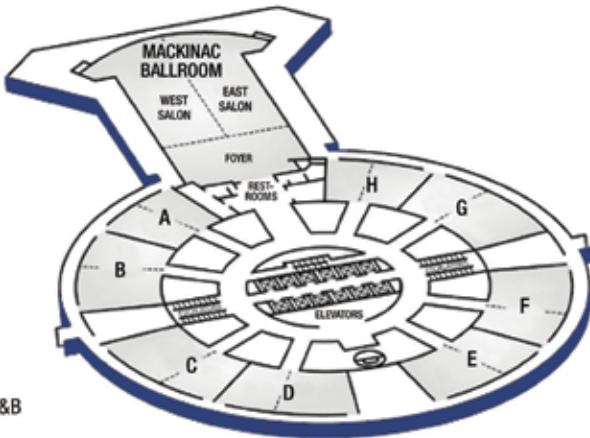
***Please note: this floorplan is not to scale.** The GMRENCEN mobile app allows you to navigate the building complex with ease. The GMRENCEN Wayfinder application is available through the iTunes App Store and is optimized to work on iOS devices.

Hotel Maps

H = Marriott Hotel GM = GM Learning Center R = Renaissance Conference Center

Level 5 (Marriott)

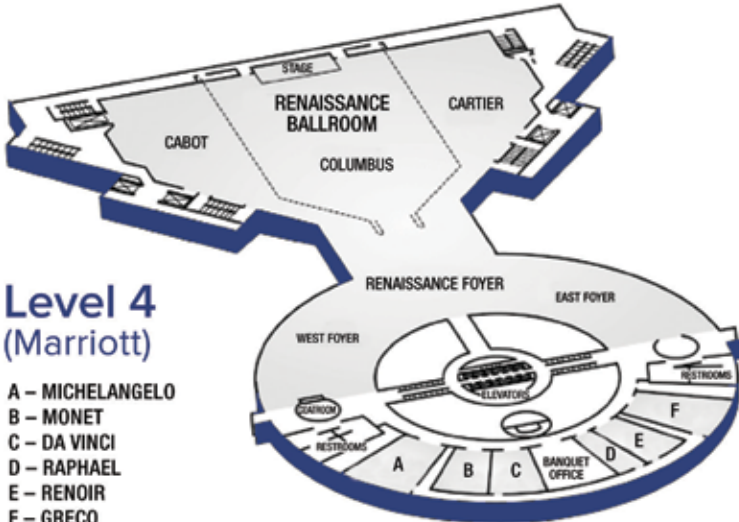
- A - DULUTH A&B
- B - NICOLET A&B
- C - BRULE A&B
- D - RICHARD A&B
- E - CADILLAC A&B
- F - LASALLE A&B
- G - MARQUETTE A&B
- H - JOLIET A&B



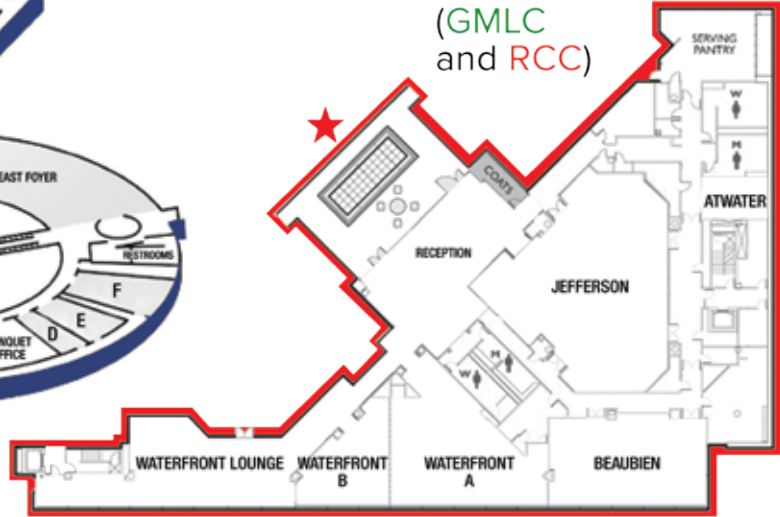
- A - BREAKOUT ROOM 14
- B - BREAKOUT ROOM 15
- C - BREAKOUT ROOM 16
- D - BREAKOUT ROOM 17
- E - BREAKOUT ROOM 18

Level 4 (Marriott)

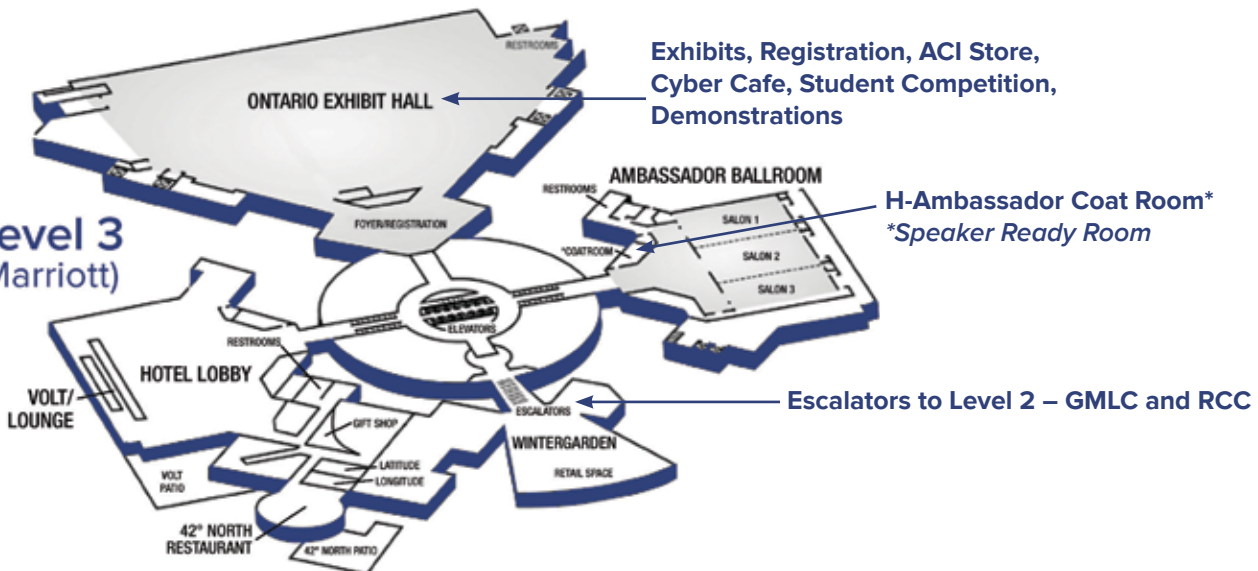
- A - MICHELANGELO
- B - MONET
- C - DA VINCI
- D - RAPHAEL
- E - RENOIR
- F - GRECO



Level 2 (GMLC and RCC)



Level 3 (Marriott)



Exhibits, Registration, ACI Store, Cyber Cafe, Student Competition, Demonstrations

H-Ambassador Coat Room*
*Speaker Ready Room

Escalators to Level 2 - GMLC and RCC

Exhibitors

H-ONTARIO EXHIBIT HALL

ACI would like to thank all exhibitors for their participation in and support of The Concrete Convention and Exposition. To learn more about each of these exhibitors, stop by their booth or visit the convention app.

Exhibit Hours

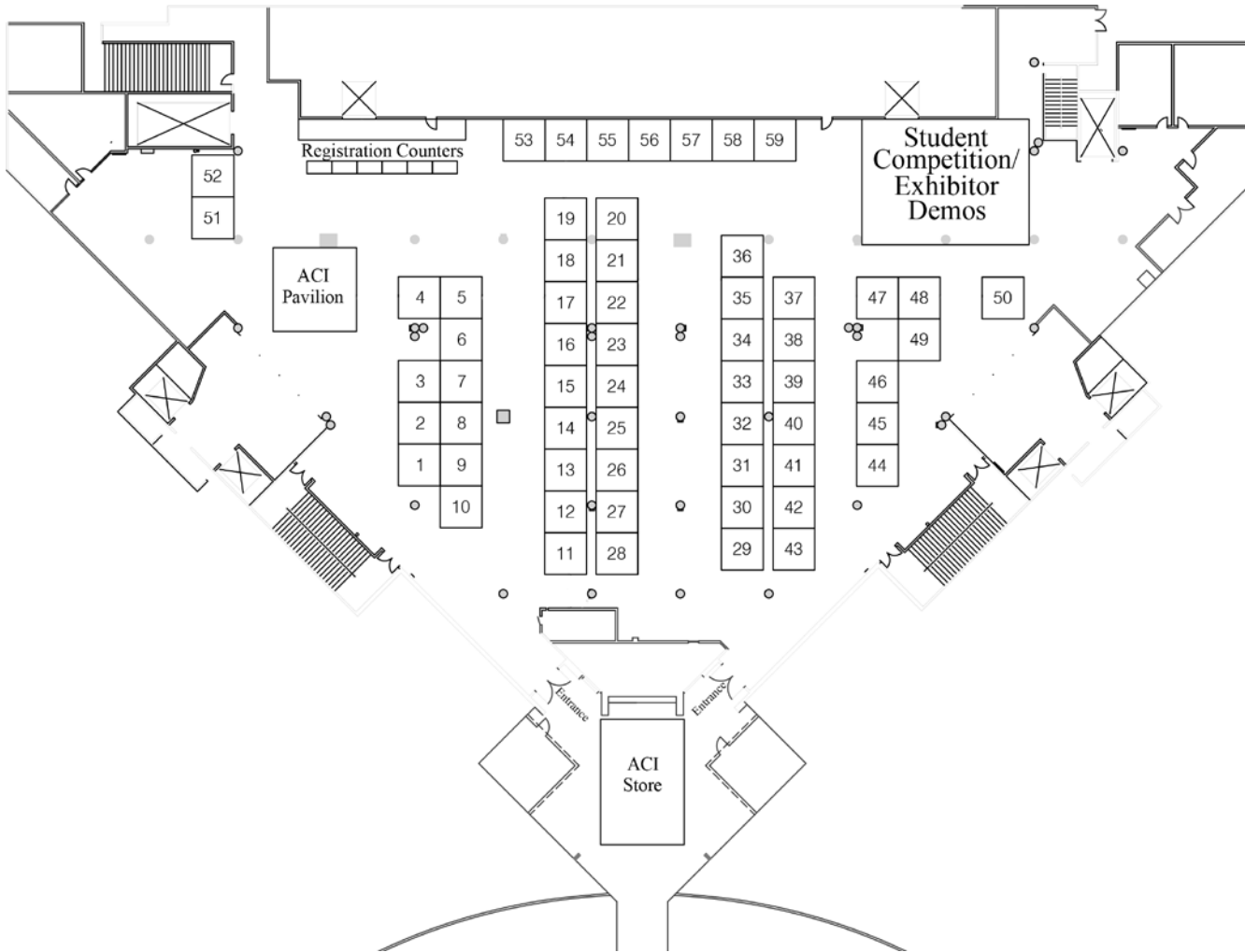
Sunday – Tuesday 8:00 am – 5:00 pm

Aquafin, Inc. www.aquafin.net	Booth #34	International Concrete Repair Institute www.icri.org	Booth #18
Barton Malow Company www.bartonmalow.com	Booth #13 & 14	International Zinc Association www.zinc.org	Booth #31
BASF Corporation www.master-builders-solutions.basf.us	Booth #20	ITW Red Head www.itwredhead.com	Booth #17
Bekaert Corp./Dramix Fibers www.bekaert.com/building	Booth #59	James Instruments Inc. www.ndtjames.com	Booth #2
Burgess Pigment Company www.OPTIPOZZ.com	Booth #11	Kryton www.kryton.com	Booth #7
Buzzi Unicem USA www.buzziunicemusa.com	Booth #49	MAPEI/GRT www.maipei.com/XG-ENV/	Booth #22
Cervenka Consulting www.cervenka.cz	Booth #21	NASA www.nasa.gov/directorates/spacetech/ centennial_challenges/index.html	Booth #58
Composite Rebar Technologies (CRT) www.hollowrebar.com	Booth #41	Portland Cement Association www.cement.org	Booth #52
Con-Cure, LLC www.con-cure.com	Booth #8	Premier CPG www.premiercpg.com	Booth #36
Concrete Reinforcing Steel Institute www.crsi.org	Booth #9	Proceq USA, Inc. www.proceq.com	Booth #44
Concrete Sealants, Inc. www.conseal.com	Booth #12	QuakeWrap www.quakewrap.com	Booth #3
Consumers Concrete www.consumersconcrete.com	Booth #3	Radarview/UCT www.radarviewllc.com	Booth #47
Decon USA Inc. www.deconusa.com	Booth #43	RILEM Publications SARL www.rilem.net	Booth #6
Echem Consultants, LLC www.e2chem.com	Booth #27	S-FRAME Software Inc. www.s-frame.com	Booth #37
ELE International www.ele.com	Booth #42	Sika Corporation www.usa.sika.com	Booth #4 & 5
The Euclid Chemical Company www.euclidchemical.com	Booth #28	Silica Fume Association www.silicafume.org	Booth #24
FARO Technologies, Inc. www.FARO.com	Booth #23	Slag Cement Association www.slagcement.org	Booth #15
Fibrwrap Construction Services www.fibrwrap.com	Booth #40	SME www.sme-usa.com	Booth #35
FORTA Corporation www.forta-ferro.com	Booth #53	Somero Matson Group www.axiom1155.com	
FORTEC STABILIZATION SYSTEMS, LLC www.fortecstabilization.com	Booth #48	STRUCTURAL TECHNOLOGIES www.structuraltechnologies.com	Booth #1
GCP Applied Technologies www.gcpat.com/construction/en-us	Booth #10	UltraTest www.ultratest.de	Booth #16
Germann Instruments, Inc. www.germann.org	Booth #29 & 30	Vector Corrosion Technologies www.vector-corrosion.com	Booth #19
Gilson Company www.globalgilson.com	Booth #32	Wacker Neuson www.wackerneuson.com	Booth #51
HILTI www.us.hilti.com	Booth #33	Zircon Corporation www.zircon.com	Booth #50
Hughes Brothers, Inc. www.aslanfrp.com	Booth #26		
Humboldt Mfg. Co. www.humboldtmfg.com	Booth #38		

Exhibitors are listed as of 3/7/17.

Exhibitor Floor Plan

ONTARIO EXHIBIT HALL



Exhibitor Demonstration Schedule

Monday, March 27, 2017

Time	Company/Organization	Presentation/Demo Title
9:45 am – 10:15 am	ATENA - Cervenka Consulting s.r.o.	Uncertainties in Nonlinear Modeling of RC and FRC Structures in ATENA Software
10:30 am – 11:00 am	UltraTest GmbH	Ultrasonic Test of Concrete Setting Processes
11:15 am – 11:45 am	QuakeWrap, Inc.	New Innovative FRP Products for Concrete Repair
2:15 pm – 2:45 pm	Slag Cement Association	Ready Mixed Concrete Life Cycle Analysis Calculator

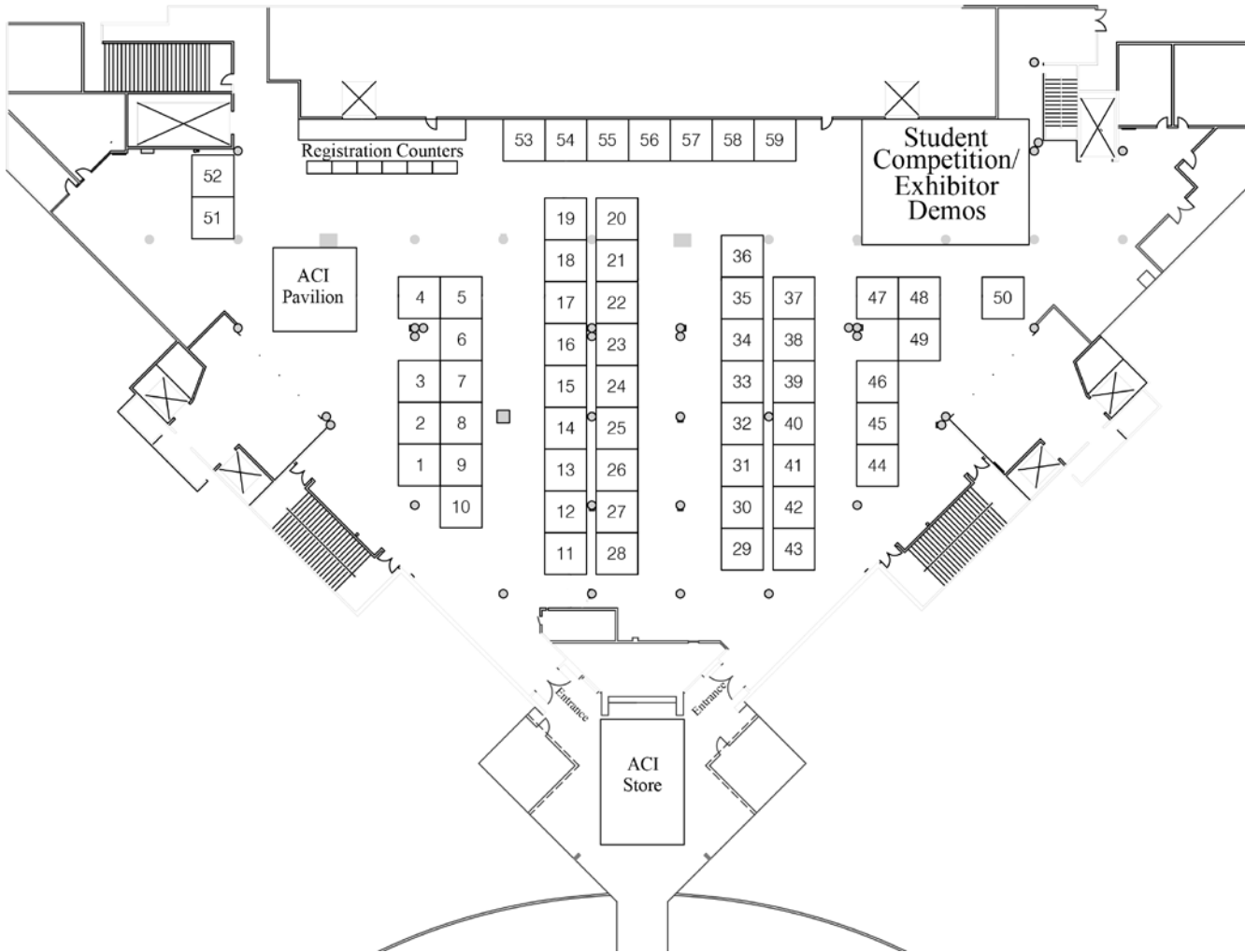
Tuesday, March 28, 2017

Time	Company/Organization	Presentation/Demo Title
10:30 am – 11:00 am	Germann Instruments, Inc.	CAPO Test: Alternative to Testing Cores
11:15 am – 11:45 am	Barton Malow Company	Virtual Design and Construction – Self Perform Concrete @ Barton Malow – Leveraging the Model for Value in the Field
12:00 pm – 12:30 pm	International Zinc Association	Bend It! – Discover Ease of Bending Continuous Galvanized Rebar

Demonstration schedule listed as of 2/28/17. 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 Floor Plan

ONTARIO EXHIBIT HALL



Exhibitor Demonstration Schedule

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Demonstration schedule listed as of 2/28/17. 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

For detailed program information and program changes, download the Convention App.

✓ = Separate fee required ★ = Guest-only event

H = Marriott Hotel GM = GM Learning Center R = Renaissance Conference Center

Friday, March 24, 2017	
6:30 pm - 9:00 pm	
Committee Meetings	See Numeric or Convention App for detailed list
Saturday, March 25, 2017	
7:00 am - 9:00 pm	
Committee Meetings	See Numeric or Convention App for detailed list
2:00 pm - 6:00 pm	
ACI Registration	H-ONTARIO EXHIBIT HALL
ACI Store	H-ONTARIO EXHIBIT HALL
ACI Cyber Café & Meeting Spot	H-ONTARIO EXHIBIT HALL
Afternoon Soda Break	H-ONTARIO EXHIBIT HALL
Speaker Ready Room	H-AMBASSADOR COAT ROOM
Sunday, March 26, 2017	
5:00 am and 6:00 am	
Run/Walk Meet-Up	H-MOTOR LOBBY
7:00 am - 10:00 am	
★ Guest Hospitality	H-JOLIET A&B
Coffee Break	H-ONTARIO EXHIBIT HALL
7:00 am - 6:00 pm	
Speaker Ready Room	H-AMBASSADOR COAT ROOM
7:30 am - 5:00 pm	
ACI Registration	H-ONTARIO EXHIBIT HALL
ACI Cyber Café & Meeting Spot	H-ONTARIO EXHIBIT HALL
8:00 am - 9:00 am	
Convention Orientation Breakfast	H-LASALLE A&B
Student Competition Check-in	H-ONTARIO EXHIBIT HALL
★ Guest Overview	H-JOLIET A&B
8:00 am - 5:00 pm	
ACI Store	H-ONTARIO EXHIBIT HALL
Exhibits	H-ONTARIO EXHIBIT HALL
8:00 am - 5:30 pm	
Committee Meetings	See Numeric or Convention App for detailed list
8:30 am - 9:30 am	
Mini Session: Bond in Concrete	R-JEFFERSON
9:00 am - 4:00 pm	
Student FRP Composites Competition	H-ONTARIO EXHIBIT HALL
10:00 am - 11:30 am	
ACI International Forum	H-AMBASSADOR SALON 1
10:00 am - 12:00 pm—Session	
Undergraduate Research on Concrete Materials, Structural Design, or Construction	H-AMBASSADOR SALON 2
10:00 am - 9:00 pm	
★ Guest Lounge	H-JOLIET A&B

10:00 am - 2:00 pm	
✓ Detroit Institute of Arts Tour	Depart H-MOTOR LOBBY
11:30 am - 1:30 pm	
✓ International Lunch	H-LASALLE A&B
1:00 pm - 3:00 pm—Sessions	
Historical Aspects of Concrete	H-AMBASSADOR SALON 1
Troubleshooting Concrete Pavements	H-AMBASSADOR SALON 2
Innovations in SCC Rheology, Part 1 of 2	H-AMBASSADOR SALON 3
1:00 pm - 4:00 pm	
Afternoon Soda Break	H-ONTARIO EXHIBIT HALL
3:30 pm - 5:30 pm—Sessions	
Electrical Methods for Evaluating Mass Transport Properties of Concrete	H-AMBASSADOR SALON 1
Innovations in SCC Rheology, Part 2 of 2	H-AMBASSADOR SALON 2
Load Testing of Existing Structures, Test Methods, Research, and Applications	H-AMBASSADOR SALON 3
5:45 pm - 7:00 pm	
Opening Session & Keynote Presentation	H-COLUMBUS
7:00 pm - 8:00 pm	
Opening Reception & Awards Recognition	H-ONTARIO EXHIBIT HALL
8:00 pm - 10:00 pm	
Hot Topic Session	H-AMBASSADOR SALON 1
9:00 pm - 10:30 pm	
Student and Young Professional Networking Event	H-VOLT RESTAURANT
Monday, March 27, 2017	
5:00 am and 6:00 am	
Run/Walk Meet-Up	H-MOTOR LOBBY
6:30 am - 8:00 am	
Workshop for Technical Committee Chairs (by invitation only)	H-COLUMBUS
7:00 am - 8:30 am	
Speaker Development Breakfast	H-MACKINAC WEST
7:00 am - 10:00 am	
★ Guest Hospitality	H-JOLIET A&B
Coffee Break	H-ONTARIO EXHIBIT HALL
7:00 am - 6:00 pm	
Speaker Ready Room	H-AMBASSADOR COAT ROOM
7:15 am - 7:00 pm	
Committee Meetings	See Numeric or Convention App for detailed list

Daily Program

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7:30 am - 5:00 pm	
ACI Registration	H-ONTARIO EXHIBIT HALL
ACI Cyber Café & Meeting Spot	H-ONTARIO EXHIBIT HALL
8:00 am - 5:00 pm	
ACI Store	H-ONTARIO EXHIBIT HALL
Exhibits	H-ONTARIO EXHIBIT HALL
8:30 am - 9:30 am	
Mini Session: Size Effect: Fracture Mechanics Matter	H-LASALLE A
Mini Session: Recent Advances in End Region Design of Prestressed Members	H-MACKINAC WEST
8:30 am - 10:30 am—Sessions	
Research in Progress, Part 1 of 2	H-AMBASSADOR SALON 1
Durability of Concrete Members Incorporated with Conventional and Advanced Materials, Part 1 of 3	H-AMBASSADOR SALON 2
Dispersion of Nanoparticles in Cement-Based Materials: Can We Stay Apart?	H-AMBASSADOR SALON 3
9:30 am - 1:00 pm	
✓Ford Rouge Factory Tour	Depart H-MOTOR LOBBY
9:45 am - 10:15 am—Exhibitor Demo	
ATENA - Cervenka Consulting s.r.o.	H-ONTARIO EXHIBIT HALL
10:00 am - 11:30 am	
ACI Student Forum	H-MARQUETTE B
10:00 am - 2:30 pm	
★ Guest Lounge	H-JOLIET A&B
10:30 am - 11:00 am—Exhibitor Demo	
UltraTest	H-ONTARIO EXHIBIT HALL
10:30 am - 12:00 pm—Session	
ACI 123 Concrete Research Poster Session	H-AMBASSADOR SALON FOYER
11:00 am - 1:00 pm—Sessions	
Research in Progress, Part 2 of 2	H-AMBASSADOR SALON 1
Durability of Concrete Members Incorporated with Conventional and Advanced Materials, Part 2 of 3	H-AMBASSADOR SALON 2
Bond in Concrete, Part 1 of 3	H-AMBASSADOR SALON 3
11:15 am - 11:45 am—Exhibitor Demo	
QuakeWrap, Inc.	H-ONTARIO EXHIBIT HALL
11:15 am - 12:15 pm	
Mini Session: European Specifications for SCC and Review of the Most Recent RILEM Performance Specifications Document	H-CARTIER
11:30 am - 1:30 pm	
✓Student Lunch	H-COLUMBUS
1:00 pm - 4:00 pm	
Afternoon Soda Break	H-ONTARIO EXHIBIT HALL

1:30 pm - 3:30 pm—Sessions	
Durability of Concrete Members Incorporated with Conventional and Advanced Materials, Part 3 of 3	H-AMBASSADOR SALON 1
Bond in Concrete, Part 2 of 3	H-AMBASSADOR SALON 2
Classroom Demonstrations Demonstrated	H-AMBASSADOR SALON 3
2:15 pm - 2:45 pm—Exhibitor Demo	
Slag Cement Association	H-ONTARIO EXHIBIT HALL
3:30 pm - 5:00 pm	
★ Guest Social	H-JOLIET A&B
4:00 pm - 6:00 pm—Sessions	
Bond in Concrete, Part 3 of 3	H-AMBASSADOR SALON 1
Beyond Chain Dragging—Nondestructive Evaluation of Bridge and Parking Decks and NDE Data Fusion	H-AMBASSADOR SALON 2
How to Design and Construct Concrete Masonry to Comply with the New Energy Codes	H-AMBASSADOR SALON 3
5:30 pm - 7:00 pm	
✓An Evening with Mete: Celebrating the Educator, Mentor, and Researcher	H-RICHARD A&B
6:00 pm - 7:00 pm	
Women in ACI Reception	H-JOLIET A&B
6:30 pm - 8:30 pm—Session	
123 Forum	H-AMBASSADOR SALON 1
Tuesday, March 28, 2017	
5:00 am and 6:00 am	
Run/Walk Meet-Up	H-MOTOR LOBBY
6:00 am - 6:45 am	
Morning Yoga Class	H-FITNESS CENTER
6:30 am - 6:00 pm	
Committee Meetings	See Numeric or Convention App for detailed list
7:00 am - 10:00 am	
★ Guest Hospitality	H-JOLIET A&B
Coffee Break	H-ONTARIO EXHIBIT HALL
7:00 am - 6:00 pm	
Speaker Ready Room	H-AMBASSADOR COAT ROOM
7:30 am - 5:00 pm	
ACI Registration	H-ONTARIO EXHIBIT HALL
ACI Cyber Café & Meeting Spot	H-ONTARIO EXHIBIT HALL
8:00 am - 10:00 am—Sessions	
Beneficiation of Fly Ash for Use in Concrete Mixtures	H-AMBASSADOR SALON 1
Case Studies of Performance-Based Specifications, Part 1 of 2	H-AMBASSADOR SALON 2
Self-Consolidating Concrete Using Recycled Materials	H-AMBASSADOR SALON 3

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8:00 am - 5:00 pm	
ACI Store	H-ONTARIO EXHIBIT HALL
Exhibits	H-ONTARIO EXHIBIT HALL
8:30 am - 9:30 am	
Mini Session: Benefits of Insulating Forms	H-MONET
Mini Session: Surface Preparations for Satisfactory Polymer Concrete Performance	H-NICOLET A&B
9:00 am - 11:00 am	
✓Detroit Walking Tour	Depart H-MOTOR LOBBY
10:00 am - 9:00 pm	
★Guest Lounge	H-JOLIET A
10:30 am - 11:00 am—Exhibitor Demo	
Germann Instruments	H-ONTARIO EXHIBIT HALL
10:30 am - 12:30 pm—Sessions	
New Innovations in Admixtures	H-AMBASSADOR SALON 1
Rehabilitation TechNotes, Part 2	H-AMBASSADOR SALON 2
Case Studies of Performance-Based Specifications, Part 2 of 2	H-AMBASSADOR SALON 3
11:15 am - 11:45 am—Exhibitor Demo	
Barton Malow Company	H-ONTARIO EXHIBIT HALL
11:30 am - 12:30 pm	
Mini Session: So, Your Committee Wants to Write an ACI Construction Specification? Here's How It's Done!	H-CADILLAC B
11:30 am - 1:30 pm	
✓Contractors' Day Lunch	H-CARTIER
12:00 pm - 12:30 pm—Exhibitor Demo	
International Zinc Association	H-ONTARIO EXHIBIT HALL
1:00 pm - 3:00 pm—Sessions	
Open Topic Session, Part 1 of 2	H-AMBASSADOR SALON 1
Connecting Materials Science and Durability Prediction	H-AMBASSADOR SALON 2
1:00 pm - 4:00 pm	
Afternoon Soda Break	H-ONTARIO EXHIBIT HALL
1:30 pm - 3:00 pm—Session	
Contractors' Day Session—Performance Concrete: Control Your Own Destiny	H-AMBASSADOR SALON 3
2:00 pm - 3:00 pm	
Mini Session: Digital Developments in Concrete	GM-TRAINING ROOM 5
3:30 pm - 5:15 pm—Session	
Contractors' Day Session: Project Overviews	H-AMBASSADOR SALON 3
3:30 pm - 5:30 pm	
Open Topic Session, Part 2 of 2	H-AMBASSADOR SALON 1
The Role of Time and Temperature in Hot Weather Concreting	H-AMBASSADOR SALON 2

5:30 pm - 6:30 pm	
Faculty Network Reception	H-CADILLAC A&B
6:30 pm - 8:30 pm	
Concrete Mixer	HENRY FORD MUSEUM Depart H-MOTOR LOBBY (Buses will begin to depart at 5:30 pm)
Wednesday, March 29, 2017	
5:00 am and 6:00 am	
Run/Walk Meet-Up	H-MOTOR LOBBY
6:00 am - 6:45 am	
Morning Yoga Class	H-FITNESS CENTER
7:00 am - 10:00 am	
★Guest Hospitality	H-JOLIET A&B
Coffee Break	H-ONTARIO EXHIBIT HALL
7:00 am - 2:00 pm	
Speaker Ready Room	H-AMBASSADOR COAT ROOM
7:00 am - 6:00 pm	
Committee Meetings	See Numeric or Convention App for detailed list
8:00 am - 11:00 am	
Workforce Innovation (<i>advanced registration is required</i>)	H-CADILLAC A&B
8:00 am - 12:00 pm	
ACI Registration	H-ONTARIO EXHIBIT HALL
ACI Store	H-ONTARIO EXHIBIT HALL
8:00 am - 2:00 pm	
ACI Cyber Café & Meeting Spot	H-ONTARIO EXHIBIT HALL
8:30 am - 10:30 am—Sessions	
Fire Resistance and Resiliency—Threats to Use of Concrete and Masonry Construction	H-AMBASSADOR SALON 1
Steel-Reinforced Grout (SRG)—A New Tool in the Repair Toolbox	H-AMBASSADOR SALON 2
10:00 am - 9:00 pm	
★Guest Lounge	H-JOLIET A&B
11:00 am - 1:00 pm—Sessions	
Textile-Reinforced Mortar (FRCM) for Repair of Concrete and Masonry Structures	H-AMBASSADOR SALON 1
Shotcrete: New 506 Guide and Recent Developments	H-AMBASSADOR SALON 2
UHPC—Innovations for Broad Application	H-AMBASSADOR SALON 3
6:30 pm - 8:00 pm	
President's Reception	H-AMBASSADOR SALON 2 & 3
Thursday, March 30, 2017	
10:00 am - 5:00 pm	
Board of Direction	ACI HEADQUARTERS

Numerical Committee Meeting Listing

For detailed program information and program changes, download the Convention App.

H = Marriott Hotel GM = GM Learning Center R = Renaissance Conference Center

Code	Committee	Day	Time	Room Name
ACI/ASCE-SEI	ACI/ASCE-SEI	Sun	4:00 pm - 5:30 pm	GM-TRAINING ROOM 13
ACIFdn	ACI Foundation	Wed	9:00 am - 11:30 am	H-MONET
BOD	Board of Direction	Thu	10:15 am - 4:00 pm	ACI HEADQUARTERS
CAC	Chapter Activities	Mon	2:00 pm - 5:00 pm	H-DA VINCI
CAC-TG	Chapter Activities Committee Student Competition TG	Wed	10:00 am - 11:30 am	H-NICOLET B
CAC-TG	Chapter Activities Committee International Activities TG	Wed	1:30 pm - 3:00 pm	H-NICOLET B
CC	Convention Committee	Tue	3:00 pm - 4:00 pm	H-CADILLAC B
CLC	Construction Liaison	Sun	8:00 am - 10:30 am	H-CADILLAC B
CPC	Certification Programs	Tue	2:00 pm - 5:00 pm	H-NICOLET A&B
CRC	Concrete Research Council	Tue	11:00 am - 1:00 pm	H-JOLIET B
CSAO	Committee on Codes and Standards Advocacy and Outreach	Mon	3:30 pm - 5:30 pm	GM-TRAINING ROOM 15
CSAO-TG	Committee on Codes and Standards Advocacy and Outreach TG	Mon	9:00 am - 10:00 am	H-RAPHAEL
C601	New Certification Program	Mon	3:00 pm - 4:30 pm	GM-TRAINING ROOM 16
C601-D	Decorative Concrete Finisher	Sun	10:00 am - 11:30 am	GM-TRAINING ROOM 16
C601-E	Concrete Construction Sustainability Assessor	Tue	7:30 am - 9:00 am	H-DULUTH A
C601-F	Nondestructive Testing Technician	Mon	1:00 pm - 3:00 pm	GM-TRAINING ROOM 9
C601-G	Self-Consolidating Concrete Testing	Mon	11:30 am - 1:00 pm	H-MONET
C601-H	Cement Testing	Wed	8:30 am - 9:30 am	H-RENOIR
C601-I	Shotcrete Inspector	Sun	1:00 pm - 2:00 pm	GM-TRAINING ROOM 15
C601-J	Adhesive Anchor Installation Inspector	Mon	4:30 pm - 5:30 pm	GM-TRAINING ROOM 16
C610	Field Technician Cert	Mon	8:30 am - 11:00 am	R-JEFFERSON
C620	Laboratory Tech Cert	Tue	8:30 am - 10:00 am	R-WATERFRONT
C630	Construction Inspector Cert	Mon	1:00 pm - 2:30 pm	GM-TRAINING ROOM 6
C631	Conc Transportation Const Insp	Tue	10:00 am - 11:30 am	H-CADILLAC B
C640	Craftsman Cert	Sun	11:00 am - 1:00 pm	H-RICHARD A
C650	TiltUp Constructor Cert	Sun	11:30 am - 1:00 pm	GM-TRAINING ROOM 16
C655	Foundation Constructor Certification	Mon	11:30 am - 1:00 pm	GM-TRAINING ROOM 14
C660	Shotcrete Nozzleman Cert	Sun	10:00 am - 12:00 pm	H-RICHARD B
C670	Masonry Technician Certification	Wed	9:30 am - 10:30 am	H-RENOIR
C680	Adhesive Anchor Installer	Tue	8:30 am - 10:00 am	H-CADILLAC B
C690	Concrete Quality Technical Manager Certification	Wed	10:30 am - 11:30 am	H-RENOIR
EAC	Educational Activities	Tue	8:00 am - 12:00 pm	H-MARQUETTE B
E701	Materials for Concrete Construction	Sun	9:00 am - 10:30 am	H-BRULE B
E702	Designing Concrete Structures	Mon	9:00 am - 10:30 am	H-DULUTH B
E703	Concrete Construction Practices	Mon	4:00 pm - 6:00 pm	H-DULUTH A
E706	Concrete Repair Education	Sun	8:00 am - 10:00 am	GM-TRAINING ROOM 6
E707	Specification Education	Tue	11:30 am - 1:00 pm	H-CADILLAC B
E710	ACI University Programs	Sun	10:30 am - 12:00 pm	GM-TRAINING ROOM 6
HTC	Hot Topic	Sun	2:30 pm - 4:00 pm	GM-TRAINING ROOM 16
IAC	International Advisory Committee	Tue	9:30 am - 11:30 am	H-MICHELANGELO
IC-Cert	International Certification	Sun	1:30 pm - 3:00 pm	H-NICOLET A
ICConf	International Conferences	Mon	7:15 am - 8:30 am	H-DULUTH B
IPAC	International Project Awards Committee	Tue	7:00 am - 8:30 am	H-DULUTH B
ITG-10	ITG10 Alternative Cementitious Materials	Sun	10:30 am - 1:30 pm	H-NICOLET A
MEMC	Membership	Sun	1:00 pm - 3:00 pm	GM-TRAINING ROOM 5
PUBC	Publications	Sun	3:30 pm - 5:00 pm	H-DULUTH A
SY PAC	Student and Young Professional Activities	Wed	8:00 am - 9:30 am	H-MACKINAC EAST
S801	Student Activities	Sun	7:30 am - 9:00 am	H-GRECO

Numerical Committee Meeting Listing

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Code	Committee	Day	Time	Room Name
S802	Teaching Methods and Educational Materials	Mon	8:30 am - 9:30 am	H-MICHELANGELO
S805	ACI Collegiate Concrete Council CLGE	Sun	4:00 pm - 5:30 pm	H-CABOT
S806	Young Professional Activities	Mon	2:00 pm - 3:30 pm	H-DULUTH A
TAC	Technical Activities	Fri	6:30 pm - 9:00 pm	H-CADILLAC B
TAC	Technical Activities	Sat	7:00 am - 6:30 pm	H-CADILLAC B
TAC-RG1	TAC Review Group 1	Sat	1:00 pm - 4:00 pm	H-RICHARD A
TAC-RG2	TAC Review Group 2	Sat	1:00 pm - 4:00 pm	H-RICHARD B
TAC-RG3	TAC Review Group 3	Sat	1:00 pm - 4:00 pm	H-NICOLET A
TCSC	TAC Construction Standards	Wed	7:30 am - 9:30 am	H-NICOLET B
TRRC	TAC Repair & Rehab	Tue	7:00 am - 8:30 am	H-CADILLAC B
TTAG	Technology Transfer Advisory Group	Tue	6:30 am - 8:00 am	H-NICOLET A&B
117	Tolerances	Tue	8:00 am - 11:30 am	H-MACKINAC EAST
118	Use of Digital Technology	Tue	2:00 pm - 3:30 pm	GM-TRAINING ROOM 5
120	History	Tue	1:30 pm - 3:00 pm	R-JEFFERSON
121	Quality Assurance	Sun	3:00 pm - 5:00 pm	GM-TRAINING ROOM 6
122	Energy Efficiency	Mon	1:00 pm - 3:00 pm	GM-TRAINING ROOM 14
123	Research	Sun	4:00 pm - 5:30 pm	H-MACKINAC EAST
124	Aesthetics	Mon	12:30 pm - 2:00 pm	GM-TRAINING ROOM 15
130	Sustainability	Mon	2:00 pm - 5:00 pm	H-CADILLAC B
130	Sustainability	Tue	11:00 am - 1:00 pm	H-BRULE A&B
130-G	Education/Certification	Tue	8:30 am - 9:00 am	GM-TRAINING ROOM 16
131	BIM	Sat	8:00 am - 5:00 pm	H-NICOLET B
131	BIM	Tue	3:00 pm - 5:00 pm	R-JEFFERSON
132	Responsibility	Sun	2:00 pm - 5:00 pm	H-RICHARD A
133	Disaster Reconnaissance	Sun	12:30 pm - 3:30 pm	H-BRULE B
201	Durability	Tue	8:00 am - 11:00 am	H-CABOT
201-D	Durability-Oversight Committee	Mon	11:30 am - 1:00 pm	GM-TRAINING ROOM 16
201-TG1	Aggressive Chemicals	Mon	3:00 pm - 4:00 pm	GM-TRAINING ROOM 6
201-TG2	Physical Salt Attack	Sun	11:00 am - 12:00 pm	R-WATERFRONT
201-TG3	Alkali-Aggregate Reactivity	Sun	12:00 pm - 2:00 pm	H-NICOLET B
201-TG5	Microbially Induced Corrosion of Concrete	Sun	10:00 am - 11:00 am	GM-TRAINING ROOM 18
207	Mass Concrete	Mon	10:00 am - 12:30 pm	H-RICHARD A&B
209	Creep & Shrinkage	Mon	10:00 am - 1:00 pm	H-DA VINCI
209-C	Models Applicability and Uncertainty	Sun	11:30 am - 12:30 pm	GM-TRAINING ROOM 15
209-D	Numerical Methods and 3D Analyses	Sun	4:30 pm - 5:30 pm	GM-TRAINING ROOM 16
211	Proportioning	Wed	8:00 am - 10:00 am	H-RICHARD A&B
211-A	Proportioning-Editorial	Tue	10:00 am - 12:00 pm	GM-TRAINING ROOM 15
211-I	Assessing Aggregate Gradation	Tue	1:00 pm - 3:00 pm	GM-TRAINING ROOM 18
211-M	Aggregate-Packing	Mon	10:00 am - 11:00 am	GM-TRAINING ROOM 17
211-P	Guide for Selecting Proportions for Pumpable Concrete	Mon	3:00 pm - 4:30 pm	GM-TRAINING ROOM 18
211-TG1	Proportioning Concrete with Non Clinker Based Cement	Tue	1:00 pm - 3:00 pm	GM-TRAINING ROOM 16
211-TG2	Developing & Using a Three-Point Curve Task Group	Tue	11:30 am - 1:00 pm	GM-TRAINING ROOM 16
212	Chemical Admixtures	Mon	2:00 pm - 5:00 pm	H-NICOLET B
213	Lightweight	Tue	1:30 pm - 3:30 pm	H-CADILLAC A
213-TG1	Lightweight-Editorial TG	Tue	11:00 am - 12:30 pm	GM-TRAINING ROOM 14
214	Strength Tests	Mon	3:30 pm - 5:30 pm	H-MICHELANGELO
214-A	Document Preparation	Mon	12:30 pm - 2:00 pm	GM-TRAINING ROOM 17
215	Fatigue	Sun	12:00 pm - 2:00 pm	H-RENOIR
216	Fire Resistance	Mon	10:00 am - 12:00 pm	H-CADILLAC B

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Code	Committee	Day	Time	Room Name
221	Aggregates	Tue	11:00 am - 12:30 pm	GM-TRAINING ROOM 6
221-TG1	Task Group on AAR	Mon	5:30 pm - 6:30 pm	GM-TRAINING ROOM 18
222	Corrosion	Tue	2:00 pm - 5:00 pm	R-WATERFRONT
223	Shrinkage Compensating	Tue	2:00 pm - 5:00 pm	H-GRECO
224	Cracking	Sun	2:30 pm - 5:00 pm	H-RENOIR
225	Hydraulic Cements	Mon	1:00 pm - 5:00 pm	H-NICOLET A
228	Nondestructive Testing	Sun	9:30 am - 12:30 pm	H-MACKINAC WEST
228-B	Visual Inspection	Sun	1:00 pm - 3:00 pm	GM-TRAINING ROOM 17
229	Controlled Low Strength	Tue	2:00 pm - 5:00 pm	H-MICHELANGELO
230	Soil Cement	Tue	8:00 am - 9:30 am	GM-TRAINING ROOM 14
231	Early Age	Mon	12:30 pm - 2:30 pm	H-DULUTH B
232	Fly Ash in Concrete	Mon	1:00 pm - 4:00 pm	H-GRECO
233	Slag Cement	Tue	2:00 pm - 5:00 pm	H-CABOT
234	Silica Fume	Tue	2:00 pm - 4:30 pm	GM-TRAINING ROOM 12
236	Material Science	Mon	4:30 pm - 5:30 pm	H-COLUMBUS
236-TG1	Advanced Analysis Techniques for Concrete	Sun	3:00 pm - 4:00 pm	H-MACKINAC EAST
237	SelfConsolidating Concrete	Mon	8:15 am - 12:15 pm	H-CARTIER
238	Workability of Fresh Concrete	Tue	8:00 am - 10:00 am	H-RENOIR
238-A	Student Workability	Tue	10:00 am - 11:30 am	GM-TRAINING ROOM 13
239	Ultra-High Performance Concrete	Mon	3:30 pm - 5:30 pm	H-MACKINAC EAST
239-A	Emerging Technology Report	Sun	1:00 pm - 3:00 pm	H-MONET
239-C	Structural Design on UHPC	Mon	10:30 am - 12:30 pm	H-RAPHAEL
239-D	Materials & Methods of Construction with UHPC	Mon	1:00 pm - 2:00 pm	H-CADILLAC B
240	Natural Pozzolans	Mon	10:00 am - 1:00 pm	H-LASALLE A
240-TG1	Test Methods and Testing of Natural Pozzolans Task Group	Mon	8:00 am - 9:30 am	H-GRECO
241	Nanotechnology of Concrete	Sun	4:00 pm - 5:30 pm	H-CADILLAC A
241-A	The Application and Implementation of NanoEngineered Concrete	Tue	1:00 pm - 3:00 pm	H-BRULE A&B
301	Specifications	Sat	1:00 pm - 4:00 pm	H-BRULE A&B
301	Specifications	Sun	1:00 pm - 4:00 pm	H-CABOT
301	Specifications	Mon	1:00 pm - 4:00 pm	R-JEFFERSON
301-A	General Requirements, Definitions, and Tolerances – Section 1	Sun	8:00 am - 9:30 am	GM-TRAINING ROOM 15
301-B	Formwork and Formwork Accessories – Section 2	Sat	6:30 pm - 8:30 pm	H-BRULE A&B
301-C	Reinforcement and Reinforcement Supports – Section 3	Sun	9:30 am - 11:30 am	GM-TRAINING ROOM 9
301-D	Concrete Mixtures – Section 4	Sun	8:00 am - 9:30 am	R-BEAUBIEN
301-E	Handling, Placing, and Constructing – Section 5	Sat	4:30 pm - 6:00 pm	H-BRULE A&B
301-F	Architectural Concrete – Section 6	Sun	10:30 am - 12:30 pm	H-BRULE B
301-G	Lightweight Concrete – Section 7	Sun	8:00 am - 9:00 am	GM-TRAINING ROOM 14
301-H	Mass Concrete – Section 8	Sun	9:30 am - 11:00 am	GM-TRAINING ROOM 10
301-I	Post-Tensioned Concrete – Section 9	Sun	8:00 am - 9:30 am	GM-TRAINING ROOM 10
301-J	Shrinkage Compensating Concrete – Section 10	Sun	8:00 am - 9:30 am	GM-TRAINING ROOM 13
301-K	Industrial Floor Slabs – Section 11	Sun	9:30 am - 11:00 am	GM-TRAINING ROOM 13
301-L	Tilt-Up Construction – Section 12	Sun	7:30 am - 9:30 am	H-NICOLET B
301-M	Precast Structural Concrete – Section 13	Sun	8:00 am - 9:30 am	GM-TRAINING ROOM 17
301-N	Precast Architectural Concrete – Section 14	Sun	9:30 am - 11:00 am	GM-TRAINING ROOM 15
301-SC	Steering Committee	Sat	11:30 am - 1:00 pm	H-BRULE A&B
302	Floor Construction	Mon	8:30 am - 1:00 pm	H-CABOT
303	Architectural CIP	Mon	8:30 am - 10:30 am	H-DULUTH A
304	Measuring/Mix/Trans/Placing	Mon	11:30 am - 1:00 pm	H-RENOIR
305	Hot Weather	Sun	2:00 pm - 4:00 pm	H-CADILLAC A

Numerical Committee Meeting Listing

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H = Marriott Hotel GM = GM Learning Center R = Renaissance Conference Center

Code	Committee	Day	Time	Room Name
306	Cold Weather	Tue	8:30 am - 11:00 am	GM-TRAINING ROOM 6
307	Chimneys	Mon	2:00 pm - 5:00 pm	GM-TRAINING ROOM 17
308	Curing	Wed	10:00 am - 1:00 pm	H-MICHELANGELO
308-A	Curing-Guide	Wed	8:00 am - 10:00 am	H-MICHELANGELO
308-B	Curing-Specifications	Tue	4:00 pm - 5:30 pm	GM-TRAINING ROOM 5
309	Consolidation	Sun	3:00 pm - 4:30 pm	GM-TRAINING ROOM 15
310	Decorative Concrete	Sun	3:00 pm - 5:30 pm	R-WATERFRONT
310/308-TG2	Curing Decorative Concrete Joint TG	Sun	2:00 pm - 3:00 pm	R-WATERFRONT
310-J	Polished Finishes	Tue	10:00 am - 12:30 pm	R-JEFFERSON
311	Inspection	Tue	12:30 pm - 2:30 pm	GM-TRAINING ROOM 9
313	Bins and Silos	Mon	8:30 am - 5:00 pm	GM-TRAINING ROOM 5
314	Simplified Design Buildings	Sun	8:30 am - 10:30 am	H-RICHARD A
315	Detailing	Sun	1:00 pm - 5:30 pm	H-GRECO
318	Building Code	Wed	8:00 am - 6:00 pm	H-CABOT
318-A	General Concrete Construction	Tue	1:30 pm - 6:00 pm	GM-TRAINING ROOM 6
318-B	Anchorage and Reinforcement	Mon	2:00 pm - 5:00 pm	R-WATERFRONT
318-B	Anchorage and Reinforcement	Tue	8:00 am - 12:30 pm	H-MACKINAC WEST
318-C	Serviceability/Safety	Tue	8:00 am - 12:30 pm	H-CADILLAC A
318-D	Members	Tue	1:30 pm - 6:00 pm	H-RICHARD B
318-E	Section and Member Strength	Mon	10:00 am - 1:00 pm	R-BEAUBIEN
318-E	Section and Member Strength	Tue	7:30 am - 12:30 pm	H-RICHARD B
318-F	Foundations	Tue	8:00 am - 12:30 pm	R-BEAUBIEN
318-G	Precast and Prestressed Concrete	Tue	8:00 am - 12:30 pm	H-GRECO
318-H	Seismic Provisions	Tue	1:30 pm - 6:00 pm	H-MACKINAC WEST
318-J	Joints and Connections	Tue	1:30 pm - 6:00 pm	H-MARQUETTE B
318-L	International Liaison	Mon	2:30 pm - 4:00 pm	H-DULUTH B
318-N	Nonlinear Dynamic Analysis	Sun	1:00 pm - 5:00 pm	H-BRULE A
318-R	High Strength Reinforcement	Tue	1:30 pm - 6:00 pm	H-JOLIET B
318-S	Spanish Translation	Mon	11:00 am - 12:30 pm	H-NICOLET A
325	Pavements	Tue	3:30 pm - 5:30 pm	H-BRULE A&B
325-A	Pavements-Design	Tue	9:00 am - 10:00 am	GM-TRAINING ROOM 13
325-E	Accelerated Paving	Tue	2:00 pm - 3:30 pm	GM-TRAINING ROOM 17
325-C	Pavements-Prestressed and Precast	Tue	10:30 am - 12:00 pm	GM-TRAINING ROOM 10
327	RCC Pavements	Tue	11:00 am - 1:00 pm	GM-TRAINING ROOM 12
329	Performance Criteria for Ready Mixed Concrete	Wed	9:30 am - 11:30 am	H-MACKINAC EAST
330	Parking Lots and Site Paving	Wed	8:00 am - 12:00 pm	H-MACKINAC WEST
332	Residential Concrete	Tue	1:30 pm - 5:00 pm	H-LASALLE A&B
332-B	Residential Concrete-Materials and Placement	Sun	4:00 pm - 5:30 pm	H-BRULE B
332-D	Residential Concrete-Footings & Foundation Walls	Tue	10:00 am - 11:30 am	GM-TRAINING ROOM 16
332-E	Residential Concrete-Above Grade Walls	Tue	11:30 am - 1:00 pm	H-MACKINAC EAST
332-F	Residential Concrete-Slabs	Tue	10:30 am - 12:00 pm	H-MONET
334	Shells	Mon	5:00 pm - 7:00 pm	R-WATERFRONT
336	Footings	Sun	1:30 pm - 5:30 pm	H-RAPHAEL
341	Earthquake-Resistant Bridges	Sun	3:00 pm - 5:00 pm	H-CADILLAC B
341-A	Earthquake Res Bridges-Columns	Sun	9:00 am - 10:30 am	GM-TRAINING ROOM 14
341-B	Earthquake Res Bridges-Pier Walls	Sun	10:30 am - 11:30 am	GM-TRAINING ROOM 14
341-C	Earthquake Res Bridges-Retrofit	Sun	12:30 pm - 1:30 pm	GM-TRAINING ROOM 14
341-D	Perf Based Seismic Design	Sun	1:30 pm - 3:00 pm	GM-TRAINING ROOM 14
342	Bridge Evaluation	Sun	8:30 am - 10:30 am	H-NICOLET A
343	Bridge Design	Mon	10:00 am - 12:00 pm	H-GRECO
343-G	Editorial	Sun	3:00 pm - 4:00 pm	GM-TRAINING ROOM 5

Numerical Committee Meeting Listing

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Code	Committee	Day	Time	Room Name
345	Bridge Construction	Sun	1:30 pm - 3:30 pm	H-DULUTH A
347	Formwork	Sat	2:00 pm - 9:00 pm	H-LASALLE A
347	Formwork	Sun	8:00 am - 12:00 pm	H-MICHELANGELO
348	Structural Reliability and Safety	Mon	2:00 pm - 3:30 pm	GM-TRAINING ROOM 15
349	Nuclear Structures	Tue	1:30 pm - 5:00 pm	H-COLUMBUS
349/359/370	349/359/370 Joint Committee Task Group	Tue	7:00 am - 12:30 pm	H-RICHARD A
349-A&B	Nuclear Structures-Design & Materials	Mon	1:00 pm - 4:30 pm	H-RICHARD A&B
349-C	Nuclear Str-Anchorage	Mon	8:00 am - 11:30 am	H-LASALLE B
350	Environmental Structures	Mon	2:00 pm - 6:00 pm	H-CARTIER
350	Environmental Structures	Wed	8:00 am - 4:00 pm	H-CARTIER
350-A	Env Str-General & Concrete	Tue	1:00 pm - 5:00 pm	H-DULUTH A
350-B	Env Str-Durability	Mon	8:30 am - 1:00 pm	GM-TRAINING ROOM 10
350-C	Env Str-Reinf & Devel	Sun	8:30 am - 11:30 am	GM-TRAINING ROOM 5
350-D	Env Str-Structural	Mon	8:30 am - 6:30 pm	H-CADILLAC A
350-E	Env Str-Precast/Prestressed	Sun	1:00 pm - 5:00 pm	GM-TRAINING ROOM 9
350-F	Env Str-Seismic	Tue	1:00 pm - 3:00 pm	GM-TRAINING ROOM 13
350-G	Tightness Testing	Mon	8:00 am - 12:00 pm	GM-TRAINING ROOM 18
350-H	Env Str-Editorial	Mon	12:30 pm - 2:00 pm	GM-TRAINING ROOM 18
350-J	Env Str-Education	Mon	1:00 pm - 3:00 pm	GM-TRAINING ROOM 16
350-K	Hazardous Materials	Mon	8:00 am - 12:00 pm	GM-TRAINING ROOM 18
350-L	Env Str-Specification	Tue	5:00 pm - 6:00 pm	GM-TRAINING ROOM 16
350-SC	Env Str-Steering Comm	Sun	11:30 am - 1:00 pm	GM-TRAINING ROOM 5
351	Equip Foundations	Tue	10:00 am - 12:00 pm	R-WATERFRONT
351-C	Equip Foundations – Dynamic Fdns	Mon	4:30 pm - 6:30 pm	H-BRULE A&B
352	Joints	Sun	2:00 pm - 5:00 pm	H-MICHELANGELO
352-TG1	Slab-Column Joints & Connections	Mon	12:00 pm - 1:30 pm	GM-TRAINING ROOM 12
352-TG2	Beam-Column Joints & Connections	Mon	1:30 pm - 3:00 pm	GM-TRAINING ROOM 12
355	Anchorage	Sun	1:30 pm - 5:00 pm	H-MACKINAC WEST
357	Offshore and Marine Concrete Structures	Tue	9:30 am - 11:30 am	GM-TRAINING ROOM 5
357-TG	Offshore and Marine Concrete Structures Task Group	Mon	8:00 am - 10:00 am	H-MONET
357-TG	Offshore and Marine Concrete Structures Task Group	Tue	1:00 pm - 3:00 pm	H-RICHARD A
359	Nuclear Reactors	Wed	9:00 am - 1:00 pm	H-BRULE A&B
359-A	Working Group on Design	Tue	7:00 am - 12:30 pm	H-RICHARD A
359-B	Working Group on Materials, Fabrication & Examination	Tue	7:00 am - 12:30 pm	H-RICHARD A
359-C	Working Group on Modernization	Wed	7:00 am - 9:00 am	H-BRULE A&B
360-SUB	Fiber Reinforcing Subcommittee	Sun	12:30 pm - 2:00 pm	R-WATERFRONT
360	Slabs on Ground	Mon	2:00 pm - 6:30 pm	H-CABOT
362	Parking Structures	Mon	1:00 pm - 5:00 pm	H-RENOIR
362-A	Updating Guide to Struct Maint of Pkg Struct Doc	Sun	1:00 pm - 4:00 pm	GM-TRAINING ROOM 13
363	High-Strength	Sun	2:30 pm - 5:00 pm	H-NICOLET B
363-A	High-Strength Lightweight Concrete	Tue	3:30 pm - 5:00 pm	GM-TRAINING ROOM 17
364	Rehabilitation	Mon	1:00 pm - 4:00 pm	H-LASALLE A
364A	Editorial Subcommittee	Mon	9:30 am - 11:00 am	GM-TRAINING ROOM 16
364-TG1	Rehab Guide	Mon	11:00 am - 12:00 pm	GM-TRAINING ROOM 17
365	Service Life	Mon	9:00 am - 11:00 am	H-RENOIR
369	Seismic Rehab	Sun	10:00 am - 12:00 pm	H-DULUTH B
369	Seismic Rehab	Sun	1:00 pm - 5:30 pm	H-DULUTH B
369	Seismic Rehab	Mon	2:00 pm - 6:00 pm	H-LASALLE B
369-A	General Provision	Sun	10:00 am - 12:00 pm	H-RENOIR

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Code	Committee	Day	Time	Room Name
369-B	Materials	Sun	1:00 pm - 3:00 pm	H-MARQUETTE B
369-C	Frames	Sun	1:00 pm - 3:00 pm	H-MACKINAC EAST
369-D	Walls	Sun	10:00 am - 12:00 pm	H-MONET
369-E	Diaphragms and Foundations	Sun	3:00 pm - 5:30 pm	GM-TRAINING ROOM 10
369-F	Retrofit	Sun	3:00 pm - 5:30 pm	H-MARQUETTE B
370	Blast and Impact Load Effects	Sun	3:00 pm - 5:00 pm	H-RICHARD B
371	Elevated Tanks with Concrete Pedestals	Mon	3:00 pm - 5:00 pm	GM-TRAINING ROOM 14
372	Tanks Wrapped Wire/Strand	Tue	3:00 pm - 5:00 pm	GM-TRAINING ROOM 16
374	Seismic Design	Mon	8:30 am - 12:00 pm	H-MACKINAC EAST
375	Design for Wind Loads	Mon	1:00 pm - 3:30 pm	H-MACKINAC EAST
376	RLG Containment Structures M1	Mon	1:00 pm - 4:00 pm	R-BEAUBIEN
376-01	Steering Subcommittee	Sun	10:30 am - 12:00 pm	GM-TRAINING ROOM 12
376-A	Code, Education & Publication Subcommittee	Mon	10:00 am - 12:00 pm	GM-TRAINING ROOM 13
376-B	Materials Subcommittee	Sun	1:00 pm - 3:00 pm	GM-TRAINING ROOM 12
376-C	Analysis Subcommittee	Sun	3:00 pm - 5:00 pm	GM-TRAINING ROOM 12
376-D	Design & Construction Subcommittee	Mon	8:00 am - 10:00 am	GM-TRAINING ROOM 13
377	Performance-Based Structural Integrity & Resilience of Concrete Structures	Mon	10:00 am - 12:30 pm	GM-TRAINING ROOM 6
408	Bond and Development of Steel Reinforcement	Sun	8:30 am - 11:30 am	R-JEFFERSON
408-A	Mech Splices	Sun	8:00 am - 8:30 am	R-JEFFERSON
408-A	Mechanical Reinforcing Bar Anchorages and Splices - M2	Sun	1:30 pm - 3:00 pm	H-RICHARD B
421	Reinf Slabs	Sun	10:00 am - 1:00 pm	H-GRECO
423	Prestressed	Mon	8:30 am - 12:30 pm	H-MACKINAC WEST
423/445	Adhoc Grp on Shear in Prestress Conc	Sun	4:00 pm - 5:30 pm	GM-TRAINING ROOM 5
423-C	Corrsn & Repr Grtd Tendons	Sun	3:00 pm - 5:00 pm	H-MONET
423-F	Sustainable Prestressed Concrete	Sun	1:00 pm - 3:00 pm	GM-TRAINING ROOM 10
423-G	Specification for Unbonded SingleStrand Tendon Materials	Mon	4:00 pm - 6:00 pm	GM-TRAINING ROOM 6
423-TG1	Unbonded Tendons Task Group	Sun	1:00 pm - 3:00 pm	GM-TRAINING ROOM 18
423-TG2	Anchorage Zone Task Group	Sun	4:00 pm - 5:30 pm	GM-TRAINING ROOM 18
435	Deflection	Mon	3:00 pm - 6:00 pm	GM-TRAINING ROOM 9
437	Strength Evaluation	Mon	10:30 am - 12:30 pm	H-DULUTH B
439	Steel Reinforcement	Mon	8:30 am - 10:30 am	H-NICOLET B
439-A	Steel Reinf-Wire	Sun	3:30 pm - 5:00 pm	GM-TRAINING ROOM 14
440	Fiber-Reinforced Polymer	Tue	8:00 am - 11:00 am	H-COLUMBUS
440-F	FRP-Repair Strengthening	Mon	1:00 pm - 4:00 pm	H-BRULE A&B
440-H	FRP-Reinforced Concrete	Sun	2:30 pm - 5:00 pm	H-CARTIER
440-H	FRP-Reinforced Concrete	Mon	8:00 am - 10:00 am	H-BRULE A&B
440-I	FRP-Prestressed Concrete	Sun	10:30 am - 11:30 am	H-CARTIER
440-K	FRP-Material Characteristics	Mon	10:00 am - 12:00 pm	H-BRULE A&B
440-M	FRP-Repair of Masonry Str	Sun	8:00 am - 10:30 am	H-CARTIER
440-TG3	Anchorage Task Group	Sun	1:00 pm - 2:30 pm	H-CADILLAC B
441	Columns	Mon	11:30 am - 2:00 pm	H-LASALLE B
441-B	Lateral Reinf	Mon	9:00 am - 10:00 am	GM-TRAINING ROOM 15
444	Structural Health Monitoring and Instrumentation	Tue	8:00 am - 10:00 am	GM-TRAINING ROOM 15
445	Shear & Torsion	Mon	2:00 pm - 6:00 pm	H-MACKINAC WEST
445-A	Shear & Torsn-Strut & Tie	Sun	9:30 am - 12:30 pm	R-BEAUBIEN
445-B	Shear & Torsn-Seismic Shear	Sun	9:30 am - 11:30 am	GM-TRAINING ROOM 17
445-C	Shear & Torsn-Punching Shear	Sun	1:00 pm - 3:00 pm	GM-TRAINING ROOM 6
445-D	Shear & Torsion-Shear Database	Sun	2:00 pm - 5:00 pm	R-BEAUBIEN

Numerical Committee Meeting Listing

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Code	Committee	Day	Time	Room Name
445-E	Shear & Torsion-Torsion	Sun	12:30 pm - 2:00 pm	R-BEAUBIEN
446	Fracture Mechanics	Mon	8:30 am - 10:00 am	H-LASALLE A
447	Finite Element Analysis	Mon	11:00 am - 1:30 pm	H-NICOLET B
506	Shotcreting	Tue	8:30 am - 11:30 am	H-LASALLE A&B
506-A	Shotcreting-Evaluation	Mon	1:00 pm - 2:30 pm	GM-TRAINING ROOM 10
506-B	Shotcreting-Fiber Reinforced	Mon	2:30 pm - 4:00 pm	GM-TRAINING ROOM 10
506-C	Shotcreting-Guide	Mon	8:30 am - 11:00 am	GM-TRAINING ROOM 12
506-E	Shotcreting-Specifications	Mon	8:30 am - 11:00 am	GM-TRAINING ROOM 12
506-F	Shotcreting-Underground	Mon	4:00 pm - 5:00 pm	GM-TRAINING ROOM 10
506-H	Shotcreting-Pools	Sun	2:00 pm - 3:00 pm	GM-TRAINING ROOM 15
515	Protective Systems	Tue	9:00 am - 11:00 am	GM-TRAINING ROOM 9
522	Pervious Concrete	Tue	8:00 am - 11:00 am	H-BRULE A&B
523	Cellular Concrete	Tue	8:30 am - 10:30 am	H-DULUTH B
524	Plastering	Mon	8:30 am - 10:00 am	H-DA VINCI
526	Autoclaved Aerated Concrete	Mon	2:00 pm - 6:00 pm	GM-TRAINING ROOM 13
526	Autoclaved Aerated Concrete	Tue	10:30 am - 1:00 pm	H-DULUTH B
533	Precast Panels	Mon	8:30 am - 10:00 am	GM-TRAINING ROOM 17
543	Piles	Mon	8:30 am - 11:30 am	GM-TRAINING ROOM 14
544	Fiber-Reinforced Concrete	Tue	3:00 pm - 5:30 pm	H-MACKINAC EAST
544-A	FRC-Education Production Application	Mon	10:00 am - 1:00 pm	H-MICHELANGELO
544-C	FRC-Testing	Tue	1:30 pm - 3:00 pm	H-MACKINAC EAST
544-D	FRC-Structural Uses	Tue	11:30 am - 1:00 pm	GM-TRAINING ROOM 5
544-E	FRC-Mechanical Properties	Mon	5:00 pm - 6:30 pm	GM-TRAINING ROOM 17
544-F	FRC-Durability	Tue	10:30 am - 12:00 pm	H-RENOIR
544-SC	FRC-Steering Committee	Mon	8:30 am - 10:00 am	H-CADILLAC B
546	Repair	Mon	9:30 am - 11:00 am	R-WATERFRONT
546-D	Packaged Repair Materials	Mon	8:00 am - 9:30 am	R-WATERFRONT
546-E	Corrosion Studies	Sun	10:00 am - 11:30 am	H-CADILLAC A
548	Polymers and Polymer Adhesives for Concrete	Tue	8:30 am - 11:30 am	H-NICOLET A&B
548-A	Polymer-Overlays	Mon	8:15 am - 11:00 am	H-NICOLET A
548-B	Polymer-Adhesives	Mon	3:00 pm - 5:00 pm	GM-TRAINING ROOM 12
549	Thin Reinforced	Sun	11:00 am - 1:00 pm	H-CADILLAC B
549-L	Liaison	Sun	9:00 am - 11:00 am	R-WATERFRONT
550	Precast Structures	Sun	3:00 pm - 5:00 pm	H-NICOLET A
551	Tilt-Up	Sun	9:00 am - 11:00 am	H-MACKINAC EAST
552	Cementitious Grouting	Tue	4:00 pm - 5:30 pm	GM-TRAINING ROOM 9
552-TG1	Additive Manufacturing	Mon	1:30 pm - 3:00 pm	H-MICHELANGELO
555	Recycled	Mon	5:00 pm - 6:30 pm	H-NICOLET B
560	Design & Constr ICFs	Tue	8:30 am - 10:30 am	H-MONET
562	Eval, Repair & Rehab	Sun	1:00 pm - 5:00 pm	R-JEFFERSON
562-A	General	Sat	12:00 pm - 4:00 pm	H-CADILLAC A
562-B	Loads	Sun	8:00 am - 10:00 am	GM-TRAINING ROOM 16
562-C	Evaluation	Sat	4:00 pm - 5:00 pm	H-CADILLAC A
562-C	Evaluation	Sat	6:00 pm - 8:00 pm	H-CADILLAC A
562-D	Design	Sat	9:00 am - 12:00 pm	H-CADILLAC A
562-E	Coordination	Mon	8:00 am - 10:00 am	GM-TRAINING ROOM 6
562-F	Durability	Sat	6:00 pm - 9:00 pm	H-NICOLET B
563	Specs for Repair of Struct Conc in Bldgs	Tue	1:00 pm - 5:00 pm	H-DULUTH B

Sessions & Events

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Sunday, March 26, 2017

8:00 am – 9:00 am

Convention Orientation Breakfast—H-LASALLE A&B

First-time convention attendees are invited for a continental breakfast and brief session to orient you to the week ahead. Attendees will have the opportunity to meet other first-time convention attendees, connect with convention mentors, and learn about what The Concrete Convention and Exposition has to offer.

8:30 am – 9:30 am

Mini Session: Bond in Concrete—R-JEFFERSON

Sponsored by Joint ACI-ASCE Committee 408
Moderated by Lisa R. Feldman, University of Saskatchewan

This series of sessions, co-organized by *fib*, serves as an interim to the Bond in Concrete conference series, held in Europe every 10 years. Various presentations will highlight the following information: 1) important changes required to development and lap splice provisions for reinforcement; 2) new works and developments as related to the modelling of bond between reinforcing steel and concrete; and 3) the results of recent experimental studies relating to lap splicing of straight bars.

8:30 am: Bond Behavior of Ransome Bars

Umesh Poudyal, University of Saskatchewan; and Lisa Feldman, University of Saskatchewan

8:50 am: Systems for Connections in Reinforced Concrete Construction with Post-Installed Reinforcing Bars—Prequalification According to AC308

John Silva, Hilti North America; and Rolf Eligehausen, University of Stuttgart

9:00 am – 4:00 pm

Student FRP Composites Competition—H-ONTARIO EXHIBIT HALL

Sponsored by ACI Committees S801 and 238
Moderated by Walter H. Flood IV, Flood Testing Labs Incorporated

In this exciting competition, students design, construct, and test a concrete structure reinforced with fiber-reinforced polymer (FRP) bars to achieve the optimal load-to-cost ratio, predict the ultimate load, and predict the load that will result in a piston deflection of 3.5 mm (0.14 in.). For more information on this competition and how to register, please visit www.concrete.org/students/studentcompetitions.aspx. Check-in time for this competition is 8:00 am, with teams assigned specific check-in times throughout the morning. Winners will be announced and prizes awarded at Monday's Student Lunch.

10:00 am – 11:30 am

ACI International Forum—H-AMBASSADOR SALON 1

Chaired by ACI Vice President Khaled Awad, ACTS

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: Dr. S. Manjrekar, president of India Chapter – ACI; Dr. Jongsung Sim, Director, Professor & Director, Fiber Research Center, Hanyang University; Dr. Nemkumar Banthia, Professor, University of British Columbia; Mr. Omar Javier Silva, Chief of Publication, Colombian Ready Mixed Concrete Producers Association; Dr. Guillermo González, President, Costa Rica Chapter – ACI; David Millar, CEO, Concrete Institute of Australia; Mark Alexander, Director, Concrete Society of Southern Africa; Dr. Johan Vynck, President, RILEM; and Dr. Robert Lewis, Vice President, Institute of Concrete Technology-UK.

10:00 am – 12:00 pm

Undergraduate Research on Concrete Materials, Structural Design, or Construction—H-AMBASSADOR SALON 2

Sponsored by ACI Committee S805
Moderated by Scott Howard Smith, Georgia Institute of Technology

The objective of this session is to provide a greater opportunity for undergraduate students to present their research at a national meeting. This session will focus on research conducted predominately by undergraduate students. It is expected that this session will draw a new group of students to ACI and the convention. It will also allow students to hear presentations of a slightly less technical nature that are more in keeping with their current level of knowledge regarding concrete.

10:00 am: Punching Shear Strength of Eccentrically Loaded GRFP-RC Flat Plates: Validity of Code Provisions and Proposed Analytical Models

Jordan K. Carrette, University of Manitoba

10:17 am: Effect of Lubricant Residues on the Strand-Concrete Bond in Pre-Tensioned Concrete Systems

Sriram Kompella, Indian Institute of Technology Madras Chennai

10:34 am: Analysis of Post-Installed Glass Fiber-Reinforced Polymer Anchorage in Beam-Column Joints

Matthew Ryan McDermott, University of Minnesota, Duluth

10:51 am: Verification of a Novel 2-D Finite Element for Reinforced and Prestressed Concrete

Mishael Ebel Nuh, University of Toronto

11:08 am: UHPC Pore Reduction through Pressurization

Omotoyosi Oyedeji, United States Military Academy

11:25 am: Design of High-Strength Portland Cement Pervious Concrete Using Nanoclay

Robert Reiss, Rowan University

11:42 am: Resistance Factor Calibration for Welded Wire Fabric Steel Reinforcement

Li Zhang, University of Western Ontario



2 AIA/CES LU

PDH Codes: _____

Sessions & Events

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11:30 am – 1:30 pm

✓ **International Lunch—H-LASALLE A&B**

\$30 U.S. per person

Topic: The Raft Construction Methodology of the World's Tallest Tower in Jeddah

Sponsored by the ACI International Advisory Committee

Speaker: Dr. Oussama Baalbaki

Dr. Oussama Baalbaki, Beirut Arab University, and Dar-Al Handasah will give a presentation on the Raft Construction Methodology of the World's Tallest Building in Jeddah. The objective of the presentation is to illustrate the construction methodology of the Kingdom Tower Raft foundation. The construction works and concrete practices related to pre-placing, placing, and post-placing activities will be elaborated upon. The presentation will focus on the preparatory works concerning the construction of the mockup; concrete mixture design; thermo-couple installation; formwork fixation; and precautions for concreting in hot weather conditions, such as the use of a fog system. The robust quality control and placing plan that was implemented through an inspection testing plan for the control of fresh and hardened concrete properties will be presented. A method statement for the insulation system to control the thermal gradient and maximum core temperature will be illustrated. The concrete mechanical properties and durability will be evaluated based on a thorough investigation and petrographic analysis.

PREREGISTRATION IS REQUIRED TO ATTEND. This lunch is expected to sell out. A limited number of tickets will be available for purchase on-site. Please notify the ACI Registration Desk if you have any dietary restrictions.

1:00 pm – 3:00 pm

Historical Aspects of Concrete—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 120

Moderated by Ryan M. Scott, GCP Applied Technologies

This session for Detroit is a continuation of the Revolutionary Concrete Session. This session is for anyone interested in hearing about the past in relation to cement or concrete, and gaining a different perspective of how things used to be.

1:00 pm: Petrographic Analysis of Aspdin's Cement

Karla Kruse, Wiss, Janney, Elstner Associates, Inc.

1:20 pm: Oldest Concrete Pavement in America—Petrographic Findings

Karla Kruse, Wiss, Janney, Elstner Associates, Inc.

1:40 pm: Father of the Water-Cement Ratio—Duff Abrams

Daniel M. Vruno, American Engineering & Testing

2:00 pm: History of the Concrete Slump Test


Jacob L. Borgerson, Paradigm Consultants, Inc.

2:20 pm: A Select History of Fibers for Concrete

Clifford N. MacDonald, FORTA Corporation

2:40 pm: An Italian History of Concrete Strength

Alessandro P. Fantilli, Politecnico di Torino

 2 AIA/CES LU

PDH Codes: _____

1:00 pm – 3:00 pm

Troubleshooting Concrete Pavements—

H-AMBASSADOR SALON 2

Sponsored by ACI Committees 325, 327, and 522

Moderated by Shiraz D. Tayabji, Advanced Concrete Pavement Consultancy

Concrete pavements are an important pavement type for a range of applications—from lightly loaded streets to heavily loaded roadways and airfield facilities. It is becoming an established practice in the United States to require that concrete pavements provide lowmaintenance service lives of 40 or more years irrespective of the application. Long-life concrete pavements have been attainable for a long time (as evidenced by the fact that a number of very old pavements remain in service); and recent advances in design, construction, and concrete materials technology give us the knowledge and technology needed to consistently achieve what we already know to be attainable. To achieve long life, pavements must not exhibit premature failures and must have a reduced potential for cracking, faulting, spalling, and materialsrelated distress. However, even though it is not a widespread occurrence, concrete pavements do once in a while exhibit premature or early-age failures, reducing the service life of the facility at a cost to the owners and facility users as well as creating a potential for litigation between the different parties involved in the affected projects. The proposed two-part technical sessions will include presentations by nationally recognized concrete materials, pavement design, and pavement construction experts on concrete pavement premature failures case studies and best practices to minimize or eliminate premature failures in concrete pavements. The session is targeted at concrete pavement, materials, and construction engineering professionals who are involved in various aspects of concrete pavement design, construction, testing and evaluation, and rehabilitation. These professionals include state and municipal engineers, consulting engineers, contractors, concrete materials suppliers, and academia.

1:00 pm: Troubleshooting and Improving Pavement Performance in Michigan

Daniel M. DeGraaf, Michigan Concrete Association

1:24 pm: Paving Concrete Materials Incompatibility Issues

Peter C. Taylor, CP Tech Center

1:48 pm: The Use of Petrography to Understand and Prevent Concrete Pavement Problems

Thomas J. Van Dam, Nichols Consulting Engineers

2:12 pm: The Role of Construction Practices in Concrete Pavement Quality and Performance

Mark B. Snyder, Mark B Snyder – Engineering Consultant

2:36 pm: Petrographic Methods Help Explain Causes of Concrete Pavement Problems

Mengesha Beyene, SES Group and Association; and Richard C. Meininger, Federal Highway Administration TFHRC

 2 AIA/CES LU

PDH Codes: _____

Sessions & Events

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H = Marriott Hotel GM = GM Learning Center R = Renaissance Conference Center

1:00 pm – 3:00 pm

Innovations in SCC Rheology, Part 1 of 2— H-AMBASSADOR SALON 3

Sponsored by ACI Committees 237 and 238, and RILEM TC-266: MRP
Moderated Mohammed Sonebi, Queen's University Belfast; and
Dimitri Feys, Missouri S&T

This session is intended for all users of rheology (academics, students, concrete producers, contractors, and material suppliers), demonstrating the latest innovations in the field. After this session, attendees will have a better understanding of how constituents influence rheology, how rheology affects casting and self-consolidating concrete (SCC) properties, the use of rheology in numerical simulations, and the latest developments on rheometers and measurement procedures.

1:00 pm: Overview of RILEM TC-266: Measuring Rheological Properties of Cement-Based Materials

Mohammed Sonebi, Queen's University Belfast; and Dimitri Feys, Missouri S&T

1:06 pm: Quantifying Structural Rebuilding through the Use of a Creep-Recovery Shear Rheological Protocol

Shiho Kawashima, Columbia University; and Ye Qian, Columbia University

1:25 pm: Real-Time Slump-Flow Measurement in Production

Nathan A. Tregger, GCP Applied Technologies Inc.

1:44 pm: Use of Automatic Measuring System for Self-Consolidating Concrete

Denis Beaupre, IBB Rheology

2:03 pm: A Method to Evaluate the Performance of Polycarboxylates Using a Test Mortar

Jae Hong Kim, Ulsan National Institute of Science & Technology; and Jin Hyun Lee, Tae Yong Shin, and Jin Young Yoon, Ulsan National Institute of Science & Technology

2:22 pm: Design and Measurement of Advanced Rheology Improvement Admixtures

Qingye Zhou, GCP Applied Technologies; and Nathan A. Tregger, Jiabiao Jiang, Lawrence Kuo, Shu Qiang Zhang, and Hua Zhong, GCP Applied Technologies

2:41 pm: New Insight into the Relationship between Rheology of SCC and Its Mortar Matrix

Ammar Yahia, Universite de Sherbrooke; and Kabagire K. Daddy, Universite de Sherbrooke



2 AIA/CES LU

PDH Codes: _____

3:30 pm – 5:30 pm

Innovations in SCC Rheology, Part 2 of 2— H-AMBASSADOR SALON 2

Sponsored by ACI Committees 237 and 238; and RILEM TC-266: MRP
Moderated by Mohammed Sonebi, Queen's University Belfast

The session description for this session may be found in the Part 1 listing; refer to page 24.

3:30 pm: In Search of Active Rheology Control of SCC

Geert De Schutter, Ghent University

3:49 pm: Reference Materials for Concrete Rheometers: Synergy between Experiments and Numerical Simulations

Chiara F. Ferraris, National Institute of Standards and Technology; and Nicos Martys, National Institute of Standards and Technology

4:08 pm: Relating Rheological Concepts to Practical Test Methods for Effective Quality Control of Self Consolidating Concrete

Joseph A. Daczko, BASF Corporation

4:27 pm: Use of Rheology as a Quality Control Tool for Placement of SCC

Stacia Van Zetten, EllisDon Corporation; and Lloyd J. Keller, EllisDon Corporation

4:46 pm: Numerical Simulation of Dynamic Segregation of SCC in Restricted and Non Restricted Flow Conditions

Kamal H. Khayat, Missouri S&T; and Masoud Hosseinpour, and Ammar Yahia, Universite de Sherbrooke

5:05 pm: Lubrication Layer Characterization to Optimize and Predict Pumping Performance of Self Consolidating Concrete Mixtures

Jan Vosahlik, CTLGroup; Dimitri Feys, Missouri S&T; and Kyle Austin Riding, University of Florida

5:24 pm: Future Challenges in SCC Rheology

Dimitri Feys, Missouri S&T; and Mohammed Sonebi, Queen's University Belfast



2 AIA/CES LU

PDH Codes: _____

3:30 pm – 5:30 pm

Load Testing of Existing Structures, Test Methods, Research and Applications—H-AMBASSADOR SALON 3

Sponsored by ACI Committee 437

Moderated by Aaron Larosche, Pivot Engineers; and Mohamed ElBatanouny, Wiss, Janney, Elstner Associates, Inc.

The objective of this session is to present recent developments in load testing of existing concrete structures, with an emphasis on differences and similarities between monotonic and cyclic load testing. Attendees include practicing engineers, educators, and those interested in evaluation of existing concrete structures.

3:30 pm: Cyclic and Monotonic Load Tests for Strength Evaluation of Prestressed Concrete Beams

Mohamed ElBatanouny, Wiss, Janney, Elstner Associates, Inc.; Antonio Nanni, University of Miami; and Paul H. Ziehl and Fabio Matta, University of South Carolina

3:55 pm: Cyclic and Monotonic Loading Protocols, Load Tests Suited to Each

Aaron K. Larosche, Pivot Engineers; and Michael E. Ahern, Pivot Engineers

4:20 pm: Load Testing to Determine Adequacy of Bridges without Plans

Rafal Naheth Wadie Anay, University of South Carolina, Columbia; and David V. Jauregui and Paul H. Ziehl, University of South Carolina

4:45 pm: Operating Floor Roll Impact Investigation

Jason Johnson, Brander Engineering, Inc.

5:10 pm: Reliability Assessment of ACI Test Load Magnitudes for Concrete Buildings

Jeffrey West, University of Waterloo; Mahesh Pandey, University of Waterloo; and Amer Abu-Khajil, Bush, Bohlman & Partners



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Sessions & Events

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3:30 pm – 5:30 pm

Electrical Methods for Evaluating Mass Transport Properties of Concrete—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 201

Moderated by Thomas J. Van Dam, Nichols Consulting Engineers

To obtain improved durability, designers are specifying limits for ASTM C1202 or, more recently, electrical resistivity test methods. The objective of the session is to discuss the different electrical test methods and appropriate test limits. In addition, errors in test results related to differences in specimen geometry and differences in pore fluid conductivity will be discussed, as well as the use of the formation factor to correct for these errors. The use of electrical methods to predict diffusion coefficients and service life are also presented.

3:30 pm: Modeling Multi-Species Ionic Transport in Concrete Using In-Situ Electrical Measurements and Local Environmental Data

O. Burkan Isgor, Oregon State University

3:55 pm: Standardization of Bulk Resistivity Tests for Fluid Penetration Resistance


R. Doug Hooton, University of Toronto

4:20 pm: Toward Performance Specifications for Concrete Durability

Jason Weiss, Oregon State University

4:45 pm: Electrical Properties of Concrete to Predict Diffusion Coefficients and Service Life

Michael D. A. Thomas, University of New Brunswick

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PDH Codes: _____

5:45 pm – 7:00 pm

Opening Session and Keynote Presentation—H-COLUMBUS

The Opening Session & Keynote Presentation is the official start to The Concrete Convention and Exposition and will begin with a welcome address by ACI President Michael Schneider. Next, the emcee for the night, George Seegbrecht will recognize new Honorary Members, Fellows, and 50-Year Members for their contributions to the concrete industry. The Opening Session will conclude with a keynote presentation by Tom Flick. Flick will discuss his presentation titled “Leadership in a Faster Moving World.” Much more leadership, not just more management. Both are crucial, but the latter alone will not ensure success in an ever-changing highly competitive world. To capitalize on windows of opportunity, the name of the game is leadership, and not just from one executive. The catalyst for sustained high-level performance is leadership, from top-to-bottom, which empowers every individual. Create action that is exceptionally alert, externally orientated, and relentlessly aimed at winning. Produce results in people that you very much want, and the world very much needs.

7:00 pm – 8:00 pm

Opening Reception and Awards Recognition—H-ONTARIO EXHIBIT HALL

Immediately following the Opening Session, attendees are invited to the exhibit hall for this evening reception. Congratulate ACI Awardees, reunite with colleagues, network with new

acquaintances, and learn about the products and services offered by the exhibitors. A cash bar and light refreshments will be available.

8:00 pm – 10:00 pm

Hot Topic Session: High-Strength (HS) Steel Reinforcement-Emerging Trends—H-AMBASSADOR SALON 1

Sponsored by the Hot Topic Committee

Moderated by Michael C. Mota, Concrete Reinforcing Steel Institute; and Mark Perniconi, Charles Pankow Foundation

Learn about emerging trends in the metallurgy of high-strength (HS) steel reinforcement, design considerations, current research focusing on ductile and non-ductile behavior of concrete structures reinforced with HS, and proposed ACI Subcommittee 318-R code ballot provisions in preparation for ACI 318-19.

8:00 pm: Metallurgy of High Strength—Emerging Trends

Jacob Selzer, Commercial Metals Corporation

8:30 pm: Design Considerations

David Fields, Magnusson Kemencic Associates

9:00 pm: Proposed ACI 318 Code Provisions for High Strength

Dominic Kelly, Simpson Gumpertz & Heger

9:30 pm: Advances in High-Strength Reinforcing Bars in the U.S.

Wassim Ghannoum, University of Texas at San Antonio

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9:00 pm – 10:30 pm

Student and Young Professional Networking Event—H-VOLT RESTAURANT

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

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

Monday, March 27, 2017

6:30 am – 8:00 am

Workshop for Technical Committee Chairs—H-COLUMBUS

Sponsored by the ACI Technical Activities Committee (TAC)
Moderated by H. R. Trey Hamilton, University of Florida

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.**

Sessions & Events

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7:00 am – 8:30 am

Speaker Development Breakfast—H-MACKINAC WEST

Sponsored by ACI Committee S802

Moderated by Arsenio Caceres Fernandez, University of Puerto Rico

Speaker: Brian Coppola, University of Michigan

Topic: Real Work is Better than Homework

Real (or authentic) work has purpose, is defined by its own results, considers its audience, involves editing and feedback, often involves collaboration, and results in constructed meaning and a polished product. In the academic world, a research publication is an excellent example of real work. We have generalized the concept of “real work” and developed a set of instructional design principles that we think anyone can use to move academic assignments from the realm of homework to that of real work. In this presentation, the speaker will provide an overview of these real work principles, provide numerous examples of these in the area of organic chemistry, and include, perhaps most importantly, the mechanism we use to enable faculty to pursue their instructional development ideas.

8:30 am – 9:30 am

Mini Session: Recent Advances in End Region Design of Prestressed Members—H-MACKINAC WEST

Sponsored by Joint ACI-ASCE Committee 423

Moderated by Brandon Ross, Clemson University

End region design and behavior of prestressed concrete members are ongoing topics of research. This session will present recent research on the challenges associated with end regions and will also offer practical information with regard to design and analysis.

8:30 am: End Region Deterioration in Precast, Prestressed Concrete Bridge Girders in Oklahoma

Royce Floyd, University of Oklahoma

8:50 am: Anchorage Zone Crack Growth in Pretensioned Bridge Girders

Pinar Okumus, University of Buffalo; Rama Pranav Kristam, Gilsanz, Murray, Steficek, LLP; and Mauricio Diaz Arancibia, University of Buffalo

9:10 am: Behavior and Design of Thin-Stemmed Dapped Ends

Gary Klein, Wiss, Janney, Elstner Associates, Inc.; Blake Andrews and Kurt Holloway, Wiss, Janney, Elstner Associates, Inc.; and Amir Botros, Ain Shams University

8:30 am – 9:30 am

Mini Session: Size Effect: Fracture Mechanics Matters!—H-LASALLE A

Sponsored by Joint ACI-ASCE Committee 446

Moderated by Christian Carloni, University of Bologna

Size effect in structural engineering deals with the experimental evidence that, for example, a larger beam fails at a lower stress than a smaller beam. This mini-session will bring together experts in the fracture mechanics field to discuss the latest developments on this topic with focus on reinforced concrete structures. Practitioners who design large-sized reinforced concrete structures and researchers who are interested in understanding how fracture mechanics can explain the size effect phenomenon should attend. The audience will learn the basic concepts of fracture mechanics and the application to size effect.

8:30 am: ACI 466 Simple Code Equation for Shear of Beams without Stirrups

Christian Carloni, University of Bologna

8:45 am: Shear Size Effect in Torsion: Why it is of Type I Rather than II, with Weillbullian Asymptote

Zdeněk P. Bažant, Northwestern University; and Kedar Kirane, Exxon Mobil

9:00 am: Numerical Simulation of Size Effect in Reinforced Concrete Structures

Mohammed Alnaggar, Rensselaer Polytechnic Institute; and Gianluca Cusatis, Northwestern University

9:15 am: Size Effect on Shear Strength of GFRP-RC Beams without Stirrups: Numerical Simulation and Experimental Validation

Sina Khodaie, University of South Carolina; Fabio Matta, University of South Carolina; and Mohammed Alnaggar, Rensselaer Polytechnic Institute

8:30 am – 10:30 am

Dispersion of Nanoparticles in CementBased Materials: Can We Stay Apart?—H-AMBASSADOR SALON 3

Sponsored by ACI Committees 234, 236, and 241

Moderated by Kejin Wang, Iowa State University; and Shiho Kawashima, Columbia University

Nanoparticles are increasingly used in cement-based materials to alter cement hydration, microstructure, and engineering properties such as workability and mechanical and electrical properties. Due to their fine size and high specific surface area, nanoparticles have very high interparticle forces (van der Waals force) and strong tendencies to agglomerate in aqueous systems, thus reducing their functionalities. Dispersion of nanoparticles is often difficult, especially in large batch mixing, which has limited more widespread potential applications in concrete practice. This session will address the importance, challenges, currently available techniques, research progress, and further needs in processing and characterizing the dispersion of nanoparticles in cementbased materials.

8:30 am: Dispersion Techniques for Carbon Nanotubes (CNT) and Carbon Nanofibers (CNF) in Cement-Based Materials

David Corr, Northwestern University; Yuan Gao and Surendra P. Shah, Northwestern University; and Maria Konsta-Gdoutos, University of Thrace

8:50 am: Using Surface Science to Better Understand Silica-Functionalized Carbon Nanotube Dispersion in Cementitious Materials

Peter Stynoski, US Army ERDC-CERL; Paramita Mondal, University of Illinois; Erik Wotring, Flood Testing Laboratories; and Charles Marsh, US Army ERDC-CERL

9:10 am: Overcoming Dispersion Challenges by Use of In-Situ Nanoscale Calcite Seeding to Improve Concrete Properties

Sean Monkman, CarbonCure Technologies; Mark MacDonald, CarbonCure Technologies; and Laila Raki, National Research Council

9:30 am: Quantifying Dispersion Quality of Nanoparticles

Zachary Grasley, Texas A&M University; and Joshua Hogancamp, Texas A&M University

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9:50 am: Highly Dispersed CNTs and CNFs for Cementitious Composites: Effect of Ultrasonication and Surfactant

Maria Konsta-Gdoutos, University of Thrace; Panagiotis Danoglidis, University of Thrace; and David Corr and Surendra Shah, Northwestern University



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PDH Codes: _____

8:30 am – 10:30 am

Durability of Concrete Members Incorporated with Conventional and Advanced Materials, Part 1 of 3—H-AMBASSADOR SALON 2

Sponsored by ACI Committees 201 and 345
Moderated by Yail Jimmy Kim, University of Colorado, Denver; Isamu Yoshitake, Yamaguchi University; and Mark F. Green, Queen's University

The special sessions will emphasize the durability of concrete bridges and buildings subjected to aggressive environmental or physical distress. Presentations will encompass a variety of technical aspects, such as the residual behavior of concrete members, performance of concrete structures reinforced or strengthened with fiber-reinforced polymer composites, and damage detection and assessment techniques. 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 demands. Critical information is given to those who lead tomorrow's structural design and construction, including practicing engineers, government officials, and academics. An ACI Special Publication will be published.

8:30 am: Behavior of Concrete Beams with Corroded Reinforcement Retrofitted with CFRP

Franz N. Rad, Portland State University; and Needa Lingga, Portland State University

8:47 am: On Numerical Modeling of Corroded Reinforced Concrete Structures

Gro Markeset, Oslo and Akershus University College; Jiabin Liand Mahdi Kioumars, Oslo and Akershus University College

9:04 am: Long-Term Durability of GFRP Internal Reinforcement in Concrete Structures

Omid Gooranorimi, University of Miami; John J. Myers, Missouri S&T; Doug D. Gremel, Hughes Brothers; and Antonio Nanni, University of Miami

9:21 am: Degradation of Mechanical Properties of Corroded Reinforcing Steel Bars: A Literature Review

Magdalena J. Paciorek, Norwegian University of Sciences and Technology; Mahdi Kioumars, Jiabin Li, and Gro Markeset, Oslo and Akershus University College

9:38 am: Durability of Concrete-CFRP Interface subjected to an Acidic Environment

Junhao Gao, University of Colorado, Denver

9:55 am: Implications of High-Plasticity Soils in Bridge MSE Wall Embankments

Mark Erik Williams, Walter P. Moore

10:12 am: Performance of Elevated Concrete Slabs-on-Grade

Anthony J. Lamanna, Eastern Kentucky University



2 AIA/CES LU

PDH Codes: _____

8:30 am – 10:30 am

Research in Progress, Part 1 of 2—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 123

Moderated by Chris Carroll, Saint Louis University; and Matthew O'Reilly, University of Kansas

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

8:30 am: Nonlinear Dynamic Analysis for Performance-Based Risk Assessment

Rafael de Amorim Salgado, University of Toledo; and Serhan Guner, University of Toledo

8:45 am: Punching Shear in RC Flat Plates with Different Stud Rail Configurations

Gabriel Polo, University of Texas; and Trevor D. Hrynyk and Oguzhan Bayrak, University of Texas

9:00 am: The Shear Strengthening of RC Members Using Shape Memory Alloys: Towards a More Ductile Shear Failure

Antoni Cladera, University of the Balearic Islands; and Joan Rius and Carlos Ribas, University of Balearic Islands

9:15 am: Bond Strength of Post-Installed Fiber-Reinforced Polymer Reinforcement in Beam-Wall Connections

Muhammad Shahraiz Bajwa, University of Minnesota, Duluth; Rania Al-Hammoud, University of Waterloo; and Ben Dymond, University of Minnesota Duluth

9:30 am: Self-Consolidating Concrete with 70 Percent Fly Ash Replacement (Performance Study)

Hayder H. Alghazali, Missouri S&T; and John W. Myers, Missouri S&T

9:45 am: Design of Corbels: Empirical Method versus Strut-and-Tie Modeling

Heather Wilson, University of Texas at Austin; Michael D. Brown, Ferguson Structural Engineering Laboratory; and Oguzhan Bayrak and Hossein Yousefpour, University of Texas at Austin

10:00 am: Development and Splice Lengths for High-Strength Reinforcement in Structural Walls

William Pollalis, Purdue University; and Santiago Pujol, Purdue University

10:15 am: Integrated Rehabilitation and Health Monitoring of Concrete Structures Using Structural Carbon Nanotube-Based Sensing Composites

Hongbo Dai, University of Delaware; Erik Thostenson, University of Delaware; and Thomas Schumacher, Portland State University



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PDH Codes: _____

Sessions & Events

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10:00 am – 11:30 am

ACI Student Forum—H-MARQUETTE B

Sponsored by ACI Chapter Activities Committee and ACI Student and Young Professional Activities Committee

The ACI Student Forum provides an opportunity for student chapters and student competition teams to meet and learn from one another. Student speakers will give presentations about the activities and achievements of their student chapter or competition team. A limited number of speakers are eligible to present on behalf of a student chapter or university team.

10:30 am – 12:00 pm

ACI 123 Concrete Research Poster Session—H-AMBASSADOR SALON FOYER

Sponsored by ACI Committee 123
Moderated by Jan Vosahlik, CTLGroup

The ACI 123 Concrete Research Poster Session complements the existing Research in Progress and Open Topic sessions and provides further opportunity for the presentation of original, unpublished results from ongoing research projects and leading-edge concrete technology throughout the world.

Performance of Low-Rise Reinforced Concrete Buildings in the 2016 Taiwan Earthquake

Aishwarya Y. Puranam, Purdue University, and Santiago Pujol, Bowen Laboratory

New Similitude Law for Dynamic Test Using RC Scaled Model and Its Verification by Shaking Table Tests

Ja Min Park, Seoul National University; and Jae Young Kim and JaeYeol Cho, Seoul National University

Drying Shrinkage of Alkali-Activated Cements: Effect of Drying Rate and Curing Temperature

Maryam Hojati, Pennsylvania State University; and Radlinska Aleksandra and Rajabipor Farshad, Pennsylvania State University

Seismic Performance of Reinforced Concrete Frames Considering Structural Uncertainty Assessment

Hamed Abshari, University of Memphis

Performance of a 14-Story Reinforced Concrete Building in the 2016 Taiwan Earthquake

Aishwarya Y. Puranam, Purdue University, and Santiago Pujol, Bowen Laboratory

The Effect of Waste Glass Compositional Variability on Geopolymer Strength Performance

Scot A. Larson, University of Minnesota, Duluth; and Mary U. Christiansen, University of Minnesota, Duluth

An Alternative Mean Unit Bond Strength for Tension Lap Splices in Reinforced Concrete

Kinsey Skillen, Purdue University

Beam Experiments to Investigate Loading Protocol and Stop Criteria for Load Testing

Eva Lantsoght, Universidad San Francisco de Quito; and Dick Hordijk and Yuguang Yang, TU Delft

Dynamic Wind Loads in Tall Buildings: Case Study in Goiania City

Byl Farney Cunha, Pontifical Catholic University of Goias

Effects of Column/Footing Connections of Hollow-Core Composite Bridge Columns

Mohamed A. ElGawady, Missouri S&T; and Mohanad M. Abdulazez, Missouri S&T

Synthesis and Characterization of Superabsorbent Polymer Hydrogels Used as Internal Curing Agents in Concrete

Matthew Krafcik, Purdue University, and Kendra Erk, Purdue University

Enhancing Mechanical Properties of (AAC) Using Basalt Fiber Composites

Alaa Ali, Rutgers University; and P N. Balaguru and Husam Najm, Rutgers University

 2 AIA/CES LU

PDH Codes: _____

11:00 am – 1:00 pm

Research in Progress, Part 2 of 2—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 123
Moderated by Chris Carroll, Saint Louis University; and Matthew O'Reilly, University of Kansas

The session description for this session may be found in the Part 1 listing; refer to page 27.

11:00 am: Ultrasonic Analysis Modifications for Imaging Concrete Infrastructure

James Bittner, University of Illinois Urbana-Champaign

11:15 am: Alkali Leaching Properties of Waste Glass-Based Geopolymers

Corey Schlosser, University of Minnesota, Duluth; and Mary U. Christiansen, University of Minnesota, Duluth

11:30 am: Using Cellulose Nanocrystals (CNC) with Portland Cements—Role of Aluminate Phases

Tengfei Fu, Oregon State University; Prannoy Suraneni, ETH Zürich; Jeff Youngblood, Purdue University; Robert T. Moon, Forest Product Laboratory; W. Jason Weiss, Oregon State University; and Pablo Zavaterra, Purdue University

11:45 am: Thermal Barriers for Nuclear Power Plants

Casey J. Sundberg, University of Minnesota, Duluth; and Andrea J. Schokker and Mary U. Christiansen, University of Minnesota, Duluth

12:00 pm: Reliability of Electrochemical Techniques for the Nondestructive Monitoring of Corrosion of Reinforcing Steel in Concrete

Andrew Fahim, University of New Brunswick; O. Burkan Isgor, Oregon State University; Pouria Ghods, Gaitec Scientific; and Michael D. A. Thomas, University of New Brunswick

12:30 pm: Evaluation of the Sulfate Resistance of Portland-Limestone Cement Systems with Limestone Contents up to 30 Percent

Nicolas B. Tiburzi, University of Texas at Austin; and Jose Eduardo Garcia, Kevin J. Folliard, and Thano Drimalas, University of Texas at Austin

12:45 pm: Fiber Cocktails in Steel Fiber-Reinforced Concrete: Synergistic Effects under Tension, Compression, and Bending

Stamatina Chasioti, University of Toronto

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11:00 am – 1:00 pm

Durability of Concrete Members Incorporated with Conventional and Advanced Materials, Part 2 of 3—H-AMBASSADOR SALON 2

Sponsored by ACI Committee 345

Moderated by Yail Jimmy Kim, University of Colorado Denver; Isamu Yoshitake, Yamaguchi University; and Mark F. Green, Queen's University

The session description for this session may be found in the Part 1 listing; refer to page 27.

11:00 am: Durability of SEACON: Concrete Made with Sea Water and Salt-Contaminated Aggregate

Morteza Khatib, University of Miami; F. De Caso and Antonio Nanni, University of Miami

11:17 am: Fire Performance of Concrete Slabs Strengthened with Fiber-Reinforced Polymers

P. P. Bhatt, Michigan State University; and Venkatesh Kumar R. Kodur, Michigan State University

11:34 am: Concrete Structures Affected by Alkali-Silica Reaction (ASR) in Norway

Simen S. Kongshaug, Oslo and Akershus University College; Jiabin Li, Mahdi Kioumars, and Gro Markeset, Oslo and Akershus University College

11:51 am: Microscopic Cracking of ASR-Affected Fiber-Reinforced Concrete

Bishnu P. Gautam, University of Toronto; and Daman K. Panesar, University of Toronto

12:08 pm: ASR Damage Detection and Assessment of Supplementary Cementitious Materials Subjected to Environmental Loadings

Shuaicheng Guo, Michigan Technological University; and Qingli Dai, Michigan Technological University

12:25 pm: Effect of Alkali-Silica Reaction (ASR) on Concrete Structures

Jiabin Li, Oslo and Akershus University College; Mahdi Kioumars and Gro Markeset, Oslo and Akershus University College of Applied Science

12:42 pm: Behavior of Prestressed Concrete Beams with CFRP Strands

Franz N. Rad, Portland State University; and Yasir M. Saeed, Portland State University



2 AIA/CES LU

PDH Codes: _____

11:00 am – 1:00 pm

Bond in Concrete, Part 1 of 3—H-AMBASSADOR SALON 3

Sponsored by Joint ACI-ASCE Committee 408

Moderated by Giovanni A. Plizzari, University of Brescia; and Lisa R. Feldman, University of Saskatchewan

This series of sessions, co-organized by *fib*, serves as an interim to the Bond in Concrete conference series, held in Europe every 10 years. Various presentations will highlight the following information: 1) important changes required to development and lap splice provisions for reinforcement; 2) new works and developments as related to the modelling of bond between reinforcing steel and concrete; and 3) the results of recent experimental studies relating to lap splicing of straight bars.

11:00 am: Introduction

Lisa R. Feldman, University of Saskatchewan; and Giovanni A. Plizzari, University of Brescia

11:05 am: Design of Reinforcing Bar Anchorages for Tension Loading

Rolf Eligehausen, University of Stuttgart; and John Silva, Hilti North America

11:24 am: Anchorage in High-Strength Concrete of Bars Using 90-Degree Standard Hooks

Julio A. Ramirez, Purdue University; and Kwang Y. Kim and Ghadir Haikal, Purdue University

11:43 am: Anchorage of High-Strength Reinforcing Bars with Standard Hooks

Jayne Sperry, Walter P Moore; Michael P. Derubeis, SA Miro Inc.; Ali H. Ajaam, University of Kansas; Nathaniel Searle, Kiewit Engineering Company; Samir Yasso, University of Kansas; and Adolfo B. Matamoros, University of Texas at San Antonio

12:02 pm: Side-Face Blowout of Large-Diameter Headed Bars Embedded in Beam-Column Joints

Sungchul Chun, Incheon National University; and Hyejung Sim, Incheon National University

12:21 pm: Anchorage of High-Strength Reinforcing Bars with Heads

David Darwin, University of Kansas; and Matthew O'Reilly, Giuseppe Centonze, Krishna P. Ghimire, and Yun Shao, University of Kansas

12:40 pm: Factors Influencing Bond Behavior between Reinforcing Steel Bars and FRC

Giovanni Metelli, University of Brescia; Giovanni A. Plizzari, University of Brescia; and Maria Antonietta Aiello, University of Salento



2 AIA/CES LU

PDH Codes: _____

11:15 am – 12:15 pm

Mini Session: European Specifications for SCC and Review of the Most Recent RILEM Performance Specifications Document—H-CARTIER

Sponsored by ACI Committee 237

Moderated by Claude Bedard, Euclid Chemical

This mini-session will take advantage of the joint ACI-RILEM Conventions convening in Detroit. Specifications for SCC in the European context will be presented along with the most recent document published by RILEM on Performance Specifications. After these two presentations, practitioners will find that SCC Specifications are aligned with performance requirements.

11:15 am: Specification of SCC in European Context

Geert De Schutter, Ghent University

11:45 am: Performance Specifications for Concrete: Work of RILEM TC on Performance Specifications

Mark Alexander, University of Cape Town; and Hans Beushausen, University of Cape Town

Sessions & Events

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11:30 am – 1:30 pm

✓ Student Lunch—H-COLUMBUS

\$41 U.S. per person

Sponsored by Baker Concrete Construction Company, Inc.



Coordinated by the Greater Michigan Chapter – ACI
Speaker: Lance J. Richards, City of Avon, Colorado

Join students and other ACI attendees for the Student Lunch. Speaker Lance J. Richards will give a presentation titled “Seven Deadly Sins: The Seven Things You Must Do to Remain Unemployed and in Your Parent’s Basement...” All are welcome to register for the lunch. 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 limited number of tickets will be available for purchase on site. Please notify the ACI Registration Desk if you have any dietary restrictions.

1:30 pm – 3:30 pm

Classroom Demonstrations Demonstrated— H-AMBASSADOR SALON 3

Sponsored by ACI Committee S802

Moderated by John Aidoo, Rose Hulman Institute; and Eric R. Giannini, University of Alabama

This session is targeted toward university instructors and students aspiring to teaching careers. During this session, speakers will explain and demonstrate effective classroom demonstrations they employ in their classes to enhance student learning. Attendees will learn about the concepts being taught, as well as how to perform these demonstrations in their own classes. In addition to actually performing their demonstrations, the speakers will set up their demonstration materials at a table so attendees may inspect the materials and interact with the speakers. This session is particularly geared toward educators in civil engineering, construction engineering, construction management, and architectural engineering programs. This session will also include a presentation by the Walter P Moore Award winner.

1:30 pm: Active Learning Strategies for Concrete Design Education through Technology Platforms

Ryan Solnosky, Pennsylvania State University

2:05 pm: Beam Model Helps Students Develop Intuition for Flexure

Rania Al-Hammoud, University of Waterloo; and Wayne Broadland, University of Waterloo

2:15 pm: Simple Demonstrations for Teaching Reinforced Concrete

Royce W. Floyd, University of Oklahoma

2:25: Puppies and Baseballs: Metaphors and Demonstrations for Teaching Concrete Mechanics

Brandon Ross, Clemson University

2:35: Using Hairy Rubber Balls to Teach Cement Hydration and Curing of Concrete

Luke M. Snell, Western Technologies

2:45: Visualizing Structural Deformations of Monolithic Construction

Anthony J. Lamanna, Eastern Kentucky University

2:55 pm: Using Surface Resistivity Meters to Teach the Importance of Permeability for Concrete Durability

Julie Ann Hartell, Oklahoma State University

3:05 pm: Examination of Demonstration Kits and Discussion with Presenters

Eric R. Giannini, University of Alabama



2 AIA/CES LU

PDH Codes: _____

1:30 pm – 3:30 pm

Bond in Concrete, Part 2 of 3—H-AMBASSADOR SALON 2

Sponsored by Joint ACI-ASCE Committee 408

Moderated by Rolf Eligehausen, University of Stuttgart; and Fabien Lagier, École Polytechnique de Montréal

The session description for this session may be found in the Part 1 listing; refer to page 29.

1:30 pm: Accounting for Shotcrete in the Computation of the Development Length of Reinforcing Bars in Tension

Pasquale Basso Trujillo, Université Laval; Bruno Massicotte, École Polytechnique de Montréal; and Marc Jolin and Benoit Bissonmatte, Université Laval

1:50 pm: Experimental Study on the Bond Behavior of Bundled Bars

Giovanni Metelli, University of Brescia; and Antonio Conforti, and Giovanni A. Plizzari, University of Brescia; and John Cairns, Heriot-Watt University

2:10 pm: Effects of High Temperature on Bond Behavior between Reinforcement and Concrete

Hitesh Lakhani, Institute of Construction Materials; Akanshu Sharma, University of Stuttgart; and Janet Hoffman, Products Operating Group

2:30 pm: Recent Developments in Design of Post-Installed Rebar Connections under Temperature

Giovanni Muciaccia, Polytechnic University of Milan; and Gianpaolo Rosati and A. Consiglio, Polytechnic University of Milan

2:50 pm: Finite Element Modeling of Cyclic Bond Slip Behavior and Development of Reinforcing Bars

Juan MurciaDelso, University of Texas at Austin; and Benson Shing, University of California, San Diego

3:10 pm: Engineering Bond Model for Corroded RC Structures

Mattias Blomfors, Chalmers University of Technology; and Karin Lundgren, Oskar Larsson, and Kamyab Zandi, Chalmers University of Technology



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Sessions & Events

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1:30 pm – 3:30 pm

Durability of Concrete Members Incorporated with Conventional and Advanced Materials, Part 3 of 3—H-AMBASSADOR SALON 1

Sponsored by ACI Committees 201 and 345

Moderated by Yail Jimmy Kim, University of Colorado Denver; Isamu Yoshitake, Yamaguchi University; and Mark F. Green, Queen's University

The session description for this session may be found in the Part 1 listing; refer to page 27.

1:30 pm: Australian Developments in Concrete Durability Consultancy

Frank Papworth, Building and Construction Research and Consulting

1:47 pm: Retrofit of Impact-Damaged Prestressed Concrete Bridge Girder Using CFRP Rod Panels

Issam E. Harik, University of Kentucky; and Abheetha Peiris, University of Kentucky

2:04 pm: Cyclic Loading Behavior of CFRP-Wrapped Non-Ductile Reinforced Concrete Beam-Column Joints

Ali S. Zerkane, Iraq Ministry of Oil; and Franz N. Rad, Portland State University

2:21 pm: Thermal Detection of Sub-Surface Defects in Concrete Bridge Decks Using Unmanned Ariel Vehicle

Tarek Omar, Western University; and Moncef L. Nehdi, Western University

2:38 pm: Shear and Flexural Strengthening of Existing Bridges with Textile Reinforced Mortar

Martin Herbrand, RWTH Aachen University; and Viviane Adam and Josef Hegger, RWTH Aachen University

2:55 pm: Behavior of Full-Scale Damaged Beams Repaired with CFRP Laminates

Hayder H. Alghazali, University of Missouri of Science and Technology, Rolla; Zuhair K. Aljaberi, Zena Riyadh Aljazaeri and John J. Myers, Missouri S&T

3:02 pm: Behavior of Prestressed Concrete Beams with FRP-Reinforced Deteriorated End Regions

Bassem Andrawes, University of Illinois at Urbana-Champaign



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PDH Codes: _____

4:00 pm – 6:00 pm

Bond in Concrete, Part 3 of 3—H-AMBASSADOR SALON 1

Sponsored by Joint ACI-ASCE Committee 408

Moderated by Werner A. F. Fuchs, University of Stuttgart; and Remy D. Lequesne, University of Kansas

The session description for this session may be found in the Part 1 listing; refer to page 29.

4:00 pm: Experimental and Numerical Analysis of Bond between Reinforcement and Ultra-High-Performance Concrete

David Citek, Klokner Institute; Jan L. Vitek, Czech Technical University; and Jiri Kolisko, Klokner Institute

4:19 pm: Bearing Angle Model for Bond of Reinforcing Steel to Concrete Applications

Oan Chul Choi, Soong Sil University

4:38 pm: Proposed Code Provisions for Anchoring Reinforcing Bars with Standard Hooks and Heads

David Darwin, University of Kansas; Ali H. Ajaam, University of Kansas; and Lisa R. Feldman, University of Saskatchewan

4:57 pm: An Evaluation of ACI 318 Provisions for Design of Overlap Splices with Straight Deformed Reinforcement

Rolf Eligehausen, University of Stuttgart; and John Cairns, Heriot-Watt University

5:16 pm: Development Length of Straight Bars in Tension Using High-Strength Materials

Samir Yasso, University of Kansas; and Remy D. Lequesne, Andres Lepage, David Darwin, and Matthew O'Reilly, University of Kansas

5:35 pm: Assessing Historical Provisions for the Bond of Plain Bars

Lisa R. Feldman, University of Saskatchewan; and John Cairns, Heriot-Watt University

5:54 pm: Closing Remarks

Remy D. Lequesne, University of Kansas; and Werner A. F. Fuchs, University of Stuttgart



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PDH Codes: _____

4:00 pm – 6:00 pm

Beyond Chain Dragging—Nondestructive Evaluation of Bridge and Parking Decks and NDE Data Fusion—H-AMBASSADOR SALON 2

Sponsored by ACI Committees 228 and 342

Moderated by John S. Popovics, University of Illinois; and Larry D. Olson, Olson Engineering Incorporated

The first session will focus on recent advancements and implementation in nondestructive evaluation methods for bridge decks as part of the Strategic Highway Research Program SHRP 2 R06A research and the current SHRP 2 R06A Implementation Assistance Program grants by the Federal Highway Administration to eight State Departments of Transportation to apply the NDE methods. The second session will highlight advancements in NDE of decks as well as fusion of NDE data from multiple methods. Attendees will learn the state of the art/practice for nondestructive evaluation of the conditions of bridge and parking decks and how the methods are emerging from research to be practically implemented by state DOTs.

4:00 pm: SHRP 2 R06A NDT of Bridge Decks Findings and FHWA RABIT for Robotic Deck Scanning

Nenad Gucunski, Rutgers University

4:30 pm: Virginia DOT's Experience in NDE of Bridge Decks and SHRP 2 R06A

Michael C. Brown, Virginia Transportation Research Council

5:00 pm: SHRP 2 R06A Overview of State DOTs and Impact Echo/Surface Waves Scanning of Bridge and Parking Decks

Larry D. Olson, Olson Engineering Inc.

5:30 pm: Automated Acoustic Scanning of Concrete Bridge Decks

Jinying Zhu, University of Nebraska – Lincoln



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Sessions & Events

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4:00 pm – 6:00 pm

How to Design and Construct Concrete and Masonry to Comply with the New Energy Codes— H-AMBASSADOR SALON 3

Sponsored by ACI Committees 122 and 130

Moderated by Jeffrey F. Speck, Trinity Lightweight

With each new edition of ASHRAE 90.1 and the IECC, designing and building concrete and masonry buildings to comply with these codes becomes more complex and confusing. This session will address and clarify the requirements of the new energy codes and explain a clear path to compliance using the ACI 122R-14 Guide as a reference. Included in this session will be discussions of methods of optimizing energy performance and integrating structural design and design for energy efficiency. This session will also explain why energy code compliance and optimizing energy performance is a key aspect of the sustainability of concrete and masonry, and explain the need for new code compliance tools. The session speakers are experts in the subject of thermal properties of concrete and masonry, and the design of concrete and masonry systems for energy code compliance. They are all members of ACI Committee 122.

4:00 pm: Introduction to ACI 122R-14—Guide to Thermal Properties of Concrete and Masonry Systems

Jeffrey F. Speck, Trinity Lightweight

4:20 pm: Complying with the Energy Codes

Nicholas R. Lang, National Concrete Masonry Association

4:40 pm: Optimizing Energy Code Compliance for Concrete and Masonry

William Mark McGinley, University of Louisville

5:05 pm: Contemporary Design and Engineering of Materials and Structural Forms for Structural Resilience and Energy Efficiency: A Holistic Approach

Hongyu Zhou, University of Alabama in Huntsville

5:30 pm: New Standards Needed for Alternative Energy Code Compliance

Stephen Szoke, American Concrete Institute



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5:30 pm – 7:00 pm

✓ An Evening with Mete: Celebrating the Educator, Mentor, Researcher—H-RICHARD A&B

\$48 U.S. per person

Mete Sozen not only shaped the ACI 318 Building Code, but also our way of thinking. Scores of engineers across the world have been influenced by his ideas either directly or through his former students. Join Sozen for an evening reception to celebrate his career as an educator, a mentor, and a researcher. This reception will feature light hors d'oeuvres and one drink ticket per person.

6:00 pm – 7:00 pm

Women in ACI Reception—H-JOLIET A&B

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. In addition to networking, attendees of this reception will have the opportunity to participate in a Silent Auction. This auction will feature concrete artwork beautifully created by students. All are welcome at this reception! A cash bar and light hors d'oeuvres will be served.

6:30 pm – 8:30 pm

123 Forum: Does 3-D Printing Have a Concrete Future in Our World and Beyond?—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 123

Moderated by Tengfei Fu, Oregon State University, and Eric R. Giannini, University of Alabama

Compared to traditional concrete construction methods, three-dimensional (3-D) printing technologies are potentially revolutionary in many ways and may have a significant impact on how we construct various concrete structures in the future. Architects are enthusiastic because these technologies open up almost limitless new shapes for buildings. Contractors are interested because of the potential to build structures without external forms. Civil engineers are intrigued that the construction process might be faster, cheaper, and more flexible. NASA is aggressively pursuing 3-D printing technologies for the construction of extraterrestrial habitats; as part of this effort, the agency is sponsoring a 3-D Printed Habitat Challenge in 2017. This Forum will provide information on recent developments, successful implementations, and the many challenges related to 3-D printing technologies on this world and beyond.

The Forum will focus on the following themes:

- What are the potential applications of 3-D-printed concrete in the construction industry, and can it compete with more traditional cast-in-place and precast construction methods?
- What are the challenges of implementing 3-D printing of concrete?
- What are the potential applications beyond Earth (for example, in-place resource-based construction as part of missions to the Moon or Mars)?
- What are the future research needs and priorities for 3-D printing of concrete?

A panel of experts will debate these questions and more to provide the audience information regarding the latest development/implementations/challenges related to 3-D printing using civil engineering materials. The Forum will start with short presentations by each panelist, followed by an interactive discussion with the audience.

6:30 pm: Introduction of Panelist and Forum Topic

Eric R. Giannini, University of Alabama

6:32 pm: Overview of the 2015 Multiscale/3-D Printing Cement Workshop

Florence Sanchez, Vanderbilt University

6:42 pm: Additive Manufacturing with Cementitious Materials

Scott Jones, National Institute of Standards and Technology

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6:52 pm: 3-D Printing of Construction Materials: Chemistry-Process-Architecture

Didier Lootens, Sika

7:02 pm: Digital Construction with Cementitious Materials: Activities of RILEM Technical Committee

Nicolas Roussel, East Paris University

7:12 pm: Novel Cementitious Composites for In-Situ Construction: Synthesis, Characterization and Optimization

Hunain Alkhateb, University of Mississippi

7:22 pm: 3-D Printing of Civil Infrastructure Materials with Controlled Microstructural Architectures

Jan Olek, Purdue University

7:32 pm: Audience Questions and Panel Discussion

Eric Giannini, University Alabama; Tengfei Fu, Oregon State University; Florence Sanchez, Vanderbilt University; Scott Jones, National Institute of Standards and Technology; Didier Lootens, Sika; Nicolas Roussel, East Paris University; Hunain Alkhateb, University of Mississippi; and Jan Olek, Purdue University



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PDH Codes: _____

7:00 pm – 8:30 pm

Richard D. Stehly Memorial Hockey Game— DEARBORN ICE SKATING CENTER

ACI members and staff will take to the ice to participate in what is becoming an ACI spring convention tradition—the Richard D. Stehly Memorial Hockey Game. All convention attendees are invited to come enjoy the fun. The Dearborn Ice Skating Center is about a 20-minute drive from the Renaissance Center and is located at:

14900 Ford Road
Dearborn, MI 48126
Phone: (313) 943-4098

<http://www.dearborniceskatingcenter.com/>

The event is free. However, in memory of former ACI President Dick Stehly, donations to the Richard D. Stehly Memorial Scholarship would be greatly appreciated.

Transportation will be provided at no charge on a first-come, first-served basis. Buses will depart promptly from the Renaissance Center at 5:30 pm and then 6:30 pm for the arena. Return trips will depart from the arena at 8:30 pm and 9:30 pm. Attendees may also arrange for their own transportation.

Tuesday, March 28, 2017

8:00 am – 10:00 am

Beneficiation of Fly Ash for Use in Concrete Mixtures—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 232
Moderated by Thomas H. Adams, American Coal Ash Association; and Lawrence L. Sutter, Michigan Technological University

Fly ash has become a strategic material for solving concrete durability challenges and making concrete construction more resilient and sustainable. Fly ash quality can be improved through various processing techniques. To meet market demand for quality and quantity, beneficiation is an increasing necessity. In addition, reclaiming fly ash from disposal in landfills and

ponds is becoming more common and often requires beneficiation. This session will present the most widely used technologies in the market today. This session will be of great value to specifiers, engineering consultants, contractors, and material suppliers.

8:00 am: What Problem Am I Fixing?

Craig Plunk, Boral Construction Materials

8:20 am: Carbon Burnout for LOI Management

Lisa I. Cooper, PMI Ash Technologies

8:40 am: Particle Separation for Improving Fly Ash Quality

Cesar A. Constantino, Separation Technologies

9:00 am: Chemical Control of LOI

Rafic Minkara, Headwaters Incorporated

9:20 am: Georgetown, SC: A Reclaiming Success Story

Hank Keiper, The SEFA Group



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PDH Codes: _____

8:00 am – 10:00 am

Case Studies of Performance-Based Specifications, Part 1 of 2—H-AMBASSADOR SALON 2

Sponsored by ACI Committee 329
Moderated by Karthik H. Obla, NRMCA

Various experts will share their experience in implementing performance-based specifications in projects. Projects will cover a broad range of applications. The focus will be on lessons learned and how someone can implement a successful performance-based specification.

8:00 am: Performance-Specifications in the UAE-Case Studies

Fouad H. Yazbeck, Readymix Abu Dhabi

8:25 am: The Port Authority of New York & New Jersey's Experiences with Performance Specifications

Casimir J. Bognacki, The Port Authority of New York & New Jersey

8:50 am: The Christopher S. Bond Bridge—An Icon for Kansas City

William R. Owings III, Geiger Ready Mix

9:15 am: Evaluation of Performance Based Concrete for Bridge Decks in Washington State

Bijan Khaleghi, WSDOT Bridge Preservation Office

9:40 pm: Case Study of Performance-Based Specifications for SCC Coastal Condominium Repair

David G. Tepke, SKA Consulting Engineers Incorporated



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Sessions & Events

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8:00 am – 10:00 am

Self-Consolidating Concrete Using Recycled Materials—H-AMBASSADOR SALON 3

Sponsored by ACI Committees 237 and 555

Moderated by Qingli Dai, Michigan Technological University; and Yasser A. Khodair, Bradley University

The objective of this session is to present research work related to the use of self-consolidating concrete using recycled materials such as recycled concrete aggregate, recycled asphalt pavement, glass, and rubber. This session will be beneficial for academicians and practicing professionals.

8:00 am: Performance Evaluation of Glass-Powder Self-Consolidating Concrete

Ahmed F. Omran, University of Sherbrooke; and Ammar Yahia, Arezki TagnitHamou, and Sihem Chekireb, University of Sherbrooke

8:20 am: Using Quarry Dust Powders to Enhance Viscosity of Cementitious Mixtures

Raissa P. Ferron, University of Texas at Austin; L R. Prudencio, Federal University of SC; and Ronaldo Pilar and Rudiele Schankoski, Federal University of SC

8:40 am: Experimental Performance of Self-Consolidating Rubberized Concrete

Ruizhe Si, Michigan Technological University; and Qingli Dai and Shuaicheng Guo, Michigan Technological University

9:00 am: A One-Year Investigation of Self-Compacting Concrete with Recycled Asphalt Pavement

Ahmed Ibrahim, University of Idaho

9:20 am: Effect of Recycled Asphalt Pavement and Recycled Concrete Aggregate on the Properties of Self-Compacting Concrete

Yasser A. Khodair, Bradley University

9:40 am: Engineering and Environmental Performance of Eco-Efficient Self-Consolidating Concrete (EcoSCC) with Low Powder Content and Recycled Concrete Aggregate

Jiong Hu, University of Nebraska – Lincoln



2 AIA/CES LU

PDH Codes: _____

8:30 am – 9:30 am

Mini Session: Surface Preparations for Satisfactory Polymer Concrete Performance—H-NICOLET A&B

Sponsored by ACI Committee 548

Moderated by Mahmoud M. Reda Taha, University of New Mexico

The objective of this mini-session is to discuss the influence of surface preparation of the substrate on the performance of polymer concrete overlays and repair. Laboratory data examining the effect of surface preparation of concrete on the behavior of polymer concrete (PC) overlay and collective field experiences on the performance of PC overlays and repair with different surface preparations will be presented and discussed. The session aims to present guidelines for best practices and advanced methods on concrete surface preparation for PC overlays and repair.

8:30 am: Substrate Preparation for Manhole Repair Using Polymer Concrete

Michael Sprinkel, Virginia Department of Transportation

8:45 am: Influence of Surface Preparation on Performance of Latex Modified Concrete Repairs

Jacques Bertrand, OMC Mobile Concrete

9:00 am: Substrate Preparation for Manhole Repair Using Polymer Concrete

Joe Nuciforo, Sewer Shield Composites

9:15 am: Examining the Use of MMA to Stabilize Unqualified Concrete Substrate

Moneeb Genedy, University of New Mexico; and Mahmoud Reda Taha, University of Mexico

8:30 am – 9:30 am

Mini Session: Benefits of Insulating Forms—H-MONET

Moderated by Robert Sculthorpe

Sponsored by ACI Committee 560

There are many alternate binder systems that benefit significantly from initial curing at an elevated temperature. The means to provide this curing is normally associated with precast plants where ambient steam can be readily applied to the concrete after casting.

The use of ICF's allows the retention of the heat of hydration to achieve self-annealing. This process allows the use of geopolymers and very high (>75 percent) replacement levels with pozzolans and other cementing materials while achieving the structural and durability properties required of the concrete. Several examples of this application will be discussed including the sustainability and construction advantages that can be realized and the potential risks and obstacles to implementation.

8:30 am: High-Volume Pozzolan Concrete and the Insulation Properties of the Insulation

Kevin MacDonald, Beton Consulting Engineers

9:00 am: Heat-Cure Geopolymer and ICFs

Kevin MacDonald, Beton Consulting Engineers

10:30 am – 12:30 pm

Case Studies of Performance-Based Specifications, Part 2 of 2—H-AMBASSADOR SALON 3

Sponsored by ACI Committee 329

Moderated by Karthik H. Obla, National Ready Mixed Concrete Association

The session description for this session may be found in the Part 1 listing; refer to page 33.

10:30 am: Implementation of Performance Specifications for Concrete at the Illinois Tollway

Daniel J. Gancarz, Applied Research Associates

10:55 am: VDOT's Experience with Performance Specifications

Michael Sprinkel, Virginia Transportation Research Council

11:20 am: Performance-Based Multi-Property Concrete Mixtures

Kevin A. MacDonald, Beton Consulting Engineers

11:45 am: Development and Execution of a Performance Specification for Mass Concrete in a Transit Station

R. Doug Hooton, University of Toronto; and John A. Bickley, John A. Bickley Associates

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12:10 pm: Performance Specification Compliance for Design-Build and P3 Projects

Paul G. Tourney, Tourney Consulting Group; and Neal S. Berke, Tourney Consulting Group



2 AIA/CES LU

PDH Codes: _____

10:30 am – 12:30 pm

New Innovations in Admixtures—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 212

Moderated by Kari L. Yuers, Kryton International Inc.; and Terry Harris, GCP Applied Technologies

On the heels of the newly published ACI 212.3R-16, “Report on Chemical Admixtures,” this session is based on a call for papers that highlight new emerging technology in the field of chemical admixtures. These presentations will provide an overview of the advancement of knowledge and use of various new innovations in chemical admixtures. All audiences will find this session valuable in terms of learning new developments and uses of chemical admixtures for improving plastic and hardened properties and use, sustainability, and economy of concrete mixtures. As chemical admixtures are one of the fastest-growing sectors of the industry, this session is not one to miss.

10:30 am: Introduction—Learning Resources Available on Chemical Admixtures

Kari L. Yuers, Kryton International Inc.

10:40 am: Innovative Technologies for “Crack-Free” Concrete Applications

Mark A. Bury, BASF Corporation; and Charles K. Nmai, BASF Corporation

11:05 am: Advancements in Evaluation of the Self-Sealing Properties of Permeability-Reducing Admixtures

Rishi Gupta, University of Victoria; and Alireza Biparva, Kryton International Inc.

11:30 am: A New, Efficient and Safe Way of Introducing Air Voids in Concrete

Oliver Schwoon, Sika Corporation

11:55 am: Novel Clay Mitigating Polymers for Robust Water-Reducing Admixtures

Lawrence L. Kuo, GCP Applied Technologies; and Qingye Zhou, Angel Abelleira, Robert J. Hoopes, and Pung Chan, GCP Applied Technologies



2 AIA/CES LU

PDH Codes: _____

10:30 am – 12:30 pm

Rehabilitation TechNotes, Part 2—H-AMBASSADOR SALON 2

Sponsored by ACI Committee 364

Moderated by Ashok M. Kakade, Concrete Science Inc.; and David A. VanOcker, CVM

The TechNotes produced by ACI Committee 364 cover important aspects of a concrete rehabilitation program, ranging from the initial stages of evaluation to strengthening and to conducting repairs so as to ensure a long service life.

10:30 am: Repair of Leaking Cracks in Walls of Liquid Containment Structures (364.12T-15)

Reid P. Markus, WJE Associates, Inc.

10:50 am: Managing Alkali-Aggregate Reaction Expansion in Mass Concrete (364.11T-15)

Marjorie M. Lynch, Lynch Consulting Engineers

11:10 am: Determining the pH of Concrete Surface Prior to Installing Floor Covering (364.T42)

Ashok M. Kakade, Concrete Science Inc.

11:30 am: Treatment of Exposed Epoxy-Coated Reinforcement in Repair (364.3T-15)

David W. Whitmore, Vector Construction Ltd.

11:50 am: Increasing Shear Capacity within Existing Reinforced Concrete Structures (364.2T 08)

John S. Lund, Martin/Martin, Inc.

12:10 pm: Repairs to Reinforcement with Shallow Cover (364.13T-15)

Liying Jiang, Simpson Gumpertz Heger Inc.



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PDH Codes: _____

11:30 am – 12:30 pm

Mini Session: So, Your Committee Wants to Write an ACI Construction Specification? Here’s How It’s Done—H-CADILLAC B

Sponsored by the ACI Educational Activities Committee

Moderated by Aimee Pergalsky, Euclid Chemical

If your committee has written, is writing, or is considering writing an ACI Construction Specification, this is the session to attend. Become familiar with the Technical Committee Manual (TCM) requirements for construction specification structure, language, and format. Learn to procedure, process, and what resources are available to help generate your document.

8:00 am: ACI Construction Specifications Tutorial, Part 1—Getting Started and Writing Your Specification

Aimee Pergalsky, Euclid Chemical

8:30 am: ACI Construction Specifications, Part 2—Writing and Completing Your Specification

Nicholas J. Carino, Concrete Technology Consultant

Sessions & Events

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11:30 am – 1:30 pm

✓ **Contractors' Day Lunch—H-CARTIER**

\$42 U.S. per person

Coordinated by the Greater Michigan Chapter – ACI
Speaker: Sandy Baruah, Detroit Regional Chamber

Topic: "Detroit: A Brief History and Look Forward"

Join other ACI attendees and contractors for the Contractors' day Lunch. Sandy Baruah will give a special presentation titled, "Detroit: A Brief History and Look Forward."

PREREGISTRATION IS REQUIRED TO ATTEND. This lunch is expected to sell out. A limited number of tickets will be available for purchase on site. Please notify the ACI Registration Desk if you have any dietary restrictions.

1:00 pm – 3:00 pm

Open Topic Session, Part 1 of 2—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 123
Moderated by Feraidon Ataie, California State University Chico; and Giovanni Loreto, Kennesaw State University

Open Topic Presentation is a forum for presenting recent technical information that could not be scheduled into other convention sessions.

1:00 pm: Analysis of Fatigue-Damaged Conventional and Steel Fiber-Reinforced Concrete Structural Elements

Benard M. Isojeh, University of Toronto; Maria El-Zeghayar, Hatch Ltd; and Frank J. Vecchio, University of Toronto

1:20 pm: In-Plane and Out-of-Plane Flexural Behavior of Externally Reinforced Steel-Plate Composite Structures Using Self-Consolidating Concrete

Giovanni Loreto, Kennesaw State University; and Kimberly E. Kurtis, Russell Gentry, Lawrence F. Kahn, and Natalia Cardelino, Georgia Institute of Technology

1:40 pm: The Behavior of the Cast-in-Place Splice Regions of Post-Tensioned Spliced Girder Bridges: An Experimental Investigation

Christopher Williams, Purdue University; Joshua B. Massey, Walter P. Moore; Andrew M. Moore, Parsons Transportation; and James O. Jirsa and Oguzhan Bayrak, University of Texas at Austin

2:00 pm: Effects of Primary Bridge Elements on Elastic Shear Distribution in Prestressed Concrete Girder Bridges

Benjamin Dymond, University of Minnesota, Duluth; and Carol K. Shield and Catherine E. French, University of Minnesota

2:20 pm: Learning from the Japanese Experience with High-Strength Longitudinal Reinforcement

Lucas Laughery, Purdue University; Santiago Pujol, Purdue University; and Tomomi Suzuki, Osaka University

2:40 pm: Evaluation of Transfer and Development Length of Carbon FRP Bars Prestressed in Self-Consolidating Concrete Beams

Slamah Krem, University of Waterloo



2 AIA/CES LU

PDH Codes: _____

1:00 pm – 3:00 pm

Connecting Materials Science and Durability Prediction—H-AMBASSADOR SALON 2

Sponsored by ACI Committees 201 and 236
Moderated by Paul D. Tennis, Portland Cement Association

This session will provide a forum to relay the state of the art with regard to predicting the impacts of materials and environmental distresses on concrete performance. Coupling fundamental materials science tools with computer modeling and real-world experimental results at a wide range of microstructural length scales is providing new insights into distress mechanisms and improving tools for service life prediction. Improved mitigation approaches for issues as diverse as freezing and thawing and alkali-silica reaction may result from this type of research, making concrete even more durable and sustainable.

1:00 pm: Anion Capture and Exchange by Functional Coatings: New Routes to Mitigate Steel Corrosion in Concrete Infrastructure

Gabriel Falzone, University of California, Los Angeles; Magdalena Balonis and Guarav Sant, University of California, Los Angeles; and Dale P. Bentz and Scott Z. Jones, National Institute of Standards and Technology

1:15 pm: Measurement and Modeling of the Ability of Crack Fillers to Prevent Chloride Ingress into Mortar

Scott Z. Jones, National Institute of Standards and Technology; Jeffery M. Davis, PNDetector GmbH; and Daniel S. Hussey, David L. Jacobson, John L. Molloy, and John R. Sieber, National Institute of Standards and Technology

1:30 pm: Theoretical and Numerical Modeling of Freeze-Thaw Damage

Edmond T. Zhou, Massachusetts Institute of Technology; Martin Z. Bazant, Massachusetts Institute of Technology; and R. J. M. Pellenq, Massachusetts Institute of Technology

1:45 pm: Toward a Performance-Based Specification for Freeze-Thaw Durability

W. Jason Weiss, Oregon State University; Tyler Ley, Oklahoma State University; Marisol Tsui Chang and Chunyo Qiao, Oregon State University; and Heather Todak, Wiss, Janney, Elstner Associates, Inc.

2:00 pm: Atomic-Scale Modeling of Alkali-Silica Reaction

Alice Dufresne, Massachusetts Institute of Technology; and Franz Ulm and Roland J. Pellenq, Massachusetts Institute of Technology

2:15 pm: Determining the Potential for Expansion

Edward Moffatt, University of New Brunswick; and Michael Thomas, University of New Brunswick

2:30 pm: The Role of Materials Science on Performance Specification Requirements for Service Life Predictions

Jose Pacheco, CTLGroup

2:45 pm: Providing Unified Guidance on Concrete Durability Through ACI

Jason Ideker, Oregon State University; Kimberly Kurtis, Georgia Institute of Technology; Michael Thomas, University of New Brunswick; Anthony Bentivegna, CTLGroup; and Thanos Drimalas, University of Texas



2 AIA/CES LU

PDH Codes: _____

Sessions & Events

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1:30 pm – 3:00 pm

Contractors' Day Session—Performance Concrete: Control Your Own Destiny—H-AMBASSADOR SALON 3

Sponsored by the Greater Michigan Chapter – ACI
Moderated by Thomas McCurry, Doan Companies

Presenters representing the delivery chain of concrete construction, from Engineer to Owner, will discuss Performance Concrete from their own unique perspective. Following four short presentations reflecting the perspectives of the Engineer, Supplier, Contractor, and Owner, the presenters will participate in a 30-minute panel discussion to further explore Performance Concrete, and to address questions or concerns from the audience.

1:30 pm: An Owner's Perspective: Know What You Want, Rely on a Team of Experts, and Establish the Right Process
Jason Harris, General Motors

1:45 pm: An Engineer's Perspective: Turning Myths Into Reality, Controlling Expectations
Gerd Hartung, Retired from Harley Ellis

2:00 pm: A Supplier's Perspective: Why and When to Use Performance Concrete
Reid Goniwiecha, Superior Materials

2:15 pm: A Contractor's Perspective: Assembling the Proper Team for High Level Execution
Mario Garza, Barton Malow Company

2:30 pm: Questions and Answers
Jason Harris, General Motors; Gerd Hartung, Retired from Harley Ellis; Reid Goniwiecha, Superior Materials; and Mario Garza, Barton Malow Company



2 AIA/CES LU

PDH Codes: _____

2:00 pm – 3:00 pm

Mini Session: Digital Developments in Concrete—GM-TRAINING ROOM 5

Moderated by James M. Shilstone, Command Alkon Inc.
Sponsored by ACI Committee 118

Digital developments in concrete change at Internet speed, not concrete speed. One of the latest developments to hit the field is that of “augmented reality”. Augmented reality has already demonstrated its usefulness on cell phone apps, like Layar, but now augmented reality is finding its way into the construction field. This mini-session will have two presentations on augmented reality, plus a presentation on ACI's new ACI University.

2:00 pm: ACI University
Frances Griffith, University of Arkansas

2:20 pm: Lessons from the Lab
Allan Bommer, Bentley Systems

2:40 pm: Do-It-Yourself ARP
James M. Shilstone, Command Alkon, Inc.

3:30 pm – 5:30 pm

Open Topic Session, Part 2 of 2—H-AMBASSADOR SALON 1

Sponsored by ACI Committee 123
Moderated by Feraidon Ataie, California State University Chico; and Giovanni Loreto, Kennesaw State University

The session description for this session may be found in the Part 1 listing; refer to page 36.

3:30 pm: Use of X-Ray Tomography for Nondestructive Phase Quantification

Tyler Deboodt, Oregon State University; and Jason H. Ideker and O. Burkan Isgor, Oregon State University

3:50 pm: Compatibility of Shrinkage-Reducing and Air-Entraining Admixtures

Rouzbeh Khajehdehi, University of Kansas; Benjamin Pendergrass, Genesis Structures; and Muzai Feng, James D. Lafikes, Matthew O'Reilly, and David Darwin, University of Kansas

4:10 pm: Prediction of Long-Term Drying Shrinkage of Portland Cement Concrete Based on Short-Term Experimental Measurements

Tengfei Fu, Oregon State University; and Tyler Deboodt and Jason H. Ideker, Oregon State University

4:30 pm: Evaluation of Volume Changes and Cracking Potential of Low Water-Cementitious Materials Ratio Concrete Mixtures

Nicolas B. Tiburzi, University of Texas at Austin; and Kevin J. Folliard and Thanos Drimalas, University of Texas at Austin

4:50 pm: Utilization of Rice Straw Fibers in Concrete

Feraidon Ataie, California State University, Chico

5:10 pm: Using Waste Glass to Mitigate ASR in Taconite for Use as Aggregate in Concrete

Nathan Robert Doolittle, University of Minnesota, Duluth; and Mary U. Christiansen, University of Minnesota, Duluth



2 AIA/CES LU

PDH Codes: _____

3:30 pm – 5:30 pm

The Role of Time and Temperature in Hot Weather Concreting—H-AMBASSADOR SALON 2

Sponsored by ACI Committee 305
Moderated by G. Terry Harris, GCP Applied Technologies; and Tarek S. Khan, BASF Construction Chemicals

Contractors, specifiers, concrete producers, and concrete testing agencies will be able to better understand the impact of time, temperature, and drum revolutions on the performance of ready mixed concrete during production and placement of concrete during hot weather.

3:30 pm: Advice for Specifiers on Hot Weather Concrete
James M. Aldred, AECOM

3:48 pm: What Does a Good Hot Weather Specification Look Like—The 305 Specification
Jonathan L. Poole, CTLGroup

4:06 pm: Improving Constructibility of Fresh Concrete under Hot Weather Conditions

Oscar R. Antommattei, Kiewit Corp Kiewit Infrastructure Engineers Company

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4:24 pm: Planning for Hot Weather Concrete Prior to the Project Bid

Tarek Khan, BASF Construction Chemicals

4:42 pm: Hot Weather Concreting in South Louisiana: Project Profile

TJ Harris, Ascension Ready Mix

5:00 pm: Hot Weather Concreting in Florida—The Selmon Elevated Expressway

G. Terry Harris, GCP Applied Technologies; Raymond O. Fox, GCP Applied Technologies; and David Westcott, Cemex, Inc.



2 AIA/CES LU

PDH Codes: _____

3:30 pm – 5:15 pm

Contractors' Day Session: Project Overviews— H-AMBASSADOR SALON 3

Sponsored by the Greater Michigan Chapter – ACI
Moderated Marshall J. Grazioli, Hubbell Roth and Clark Inc.

Four presentations of recently constructed or soon-to-be-constructed projects using reinforced concrete construction. Most of the highlighted projects are in the immediate Detroit area and cover road, bridge, sporting, and multi-story building projects.

3:30 pm: Voided Concrete Floor Projects

Tony Johnson, Concrete Reinforcing Steel Institute

3:50 pm: Mega Projects—I-75 and I-94

Tony Kratofil, Michigan Department of Transportation

4:10 pm: Gordie Howe Bridge

Michael Cautillo, Windsor-Detroit Bridge Authority

4:40 pm: Little Caesars Arena

Sean Hollister, Barton Malow Company



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5:30 pm – 6:30 pm

Faculty Network Reception—H-CADILLAC A&B

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

6:30 pm – 8:30 pm

Concrete Mixer—HENRY FORD MUSEUM OF AMERICAN INNOVATION

Join ACI attendees and guests for an evening of networking, entertainment, and great food during the Concrete Mixer, held at the Henry Ford Museum of American Innovation. Stroll through the museum to learn about the breakthroughs—big and small—that have made our world what it is today. An assortment of food and beverages will be available. **Transportation will depart from the first floor Motor Lobby at the Marriott beginning at 5:30 pm.**

Wednesday, March 29, 2017

8:00 am – 11:00 am

Workforce Innovation—H-CADDILLAC A&B

Sponsored by Baker Concrete Construction Company, Incorporated and ACI

Join WICA and ACI in a session titled Workforce Innovation, which will ask the question, “Do We Have the Right Labor Force for the Jobs That Will Exist in 10 years?”

Attendees will learn about an effective diversity strategy—what is working and what is hurting progress. The session will provide attendees with an understanding of actions that can be taken to drive progress in organizations.

In addition to a keynote session as well as roundtable forums led by Pam Jeffords, a partner at Mercer and a global expert on diversity and inclusion in the workplace, the morning will include commentary and insight from industry leaders related to key issues facing the concrete industry including:

- Research update on the status of the industry;
- Talent acquisition and workforce retention;
- The future labor force; and
- Impact of generational differences.



3 AIA/CES LU

PDH Codes: _____

8:30 am – 10:30 am

Fire Resistance and Resiliency—Threats to Use of Concrete and Masonry Construction— H-AMBASSADOR SALON 1

Sponsored by ACI Committee 216

Moderated by Nicholas R. Lang, National Concrete Masonry Association; and Anuj M. Shakya, Structural Technologies

Non-combustibility, fire resistance, and resiliency have always been inherent properties of concrete and masonry construction. Because of these properties, concrete and masonry construction were preferred building materials in many applications, including multi-family housing and high-rise construction. Recent trends, both in the United States and internationally, have put these applications at risk to various types of light frame and mass timber construction. Throughout the world, there has been a push for larger and higher light frame construction, and with that, significant risks related to the vulnerability of these structures to fires. It is expected the upcoming code development cycle for the International Building Code (IBC) will see continued efforts to provide more applications for light frame and mass timber construction, into applications where concrete and masonry construction have been used. With this IBC development cycle starting in early 2018, this session is important and timely to review current code provisions, anticipate threats, review the situation internationally, and provide avenues for the concrete and masonry industry to combat these threats.

8:30 am: Historical Evolution of Buildings and Fire Resistance in U.S. Codes

Stephen V. Skalko, Stephen V. Skalko, P.E. & Associates

Sessions & Events

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8:55 am: Resilience of Structure Related to Fire

Stephen S. Szoke, American Concrete Institute

9:20 am: On the Fire Design of Concrete and Masonry Structures—The New Generation of Eurocodes and Future Challenges

Joao Rodrigues, University of Coimbra

9:45 am: Strategies for Enhancing Fire Resistance and Resiliency of Modern of Concrete Structures

Venkatesh Kumar R. Kodur, Michigan State University

10:10 am: Rational Approach for Improving the Fire Rating of Concrete Members Strengthened with Externally Applied FRP Composites

Anuj M. Shakya, Structural Technologies; and Tarek Alkhrdaji, Structural Technologies



2 AIA/CES LU

PDH Codes: _____

8:30 am – 10:30 am

Steel-Reinforced Grout (SRG)—A New Tool in the Repair Toolbox—H-AMBASSADOR SALON 2

Sponsored by ACI Committees 549 and 562 and RILEM TC 250

Moderated by Lesley H. Sneed, Missouri S&T; and Antonio Nanni, University of Miami

This session will present the latest developments on a repair technique identified as steel-reinforced grout (SRG). SRG is another tool among the concrete and masonry strengthening methods that complements existing FRCM and FRP. SRG consists of a reinforcement fabric made of ultra-high-strength steel cords embedded in a cementitious grout and externally bonded to the substrate.

8:30 am: Confinement of Concrete Columns with SRG

Christian Carloni, University of Bologna; Lesley H. Sneed, Missouri S&T; and Mattia Santandrea and Imohamed Ali Omar Imohamed, University of Bologna

8:47 am: Comparative Analysis of the Tensile Behavior of Steel-Reinforced Grout (SRG) Systems

Costantino Menna, University of Naples Federico II; and Andrea Prota and Alberto Balsamo, University of Naples Federico II

9:02 am: Flexural Behavior of SRG-Strengthened RC Beams

Lesley H. Sneed, Missouri S&T; ; Christian Carloni, University of Bologna; and Salvatore Verre and Luciano Ombres, University of Calabria

9:19 am: Numerical Analysis of RC Beams Strengthened with SRG

Guido Camata, University of Chieti and Pescara; Christian Carloni, University of Bologna; Massimo Petracca, University of Chieti and Pescara; Paolo Casadei, Kerakoll SPA; and Roberto Realfonzo and Annalisa Napoli, University of Salerno

9:36 am: Out-of-Plane Reinforcement of Masonry Walls with Steel-Reinforced Grout

Gianmarco De Felice, Roma Tre University; and Stefano De Santis, Roma Tre University

9:53 am: SRG for Strengthening Reinforced Concrete and Masonry Structures: From Laboratory to Field Applications

Paolo Casadei, Kerakoll SPA



2 AIA/CES LU

PDH Codes: _____

9:00 am – 10:30 am

RILEM Session: Gustavo Colonnetti Lectures—H-AMBASSADOR 3

Sponsored by RILEM Technical Activities Committee

Moderated by Nicolas Roussel, IFSTTAR

The Gustavo Colonnetti Medal, established in 2016, is given in recognition of a researcher of less than 35 years for outstanding scientific contribution to the field of construction materials and structures. It is given in memory of the first RILEM President who was also one of the co-founders of the association. Up to two Gustavo Colonnetti Medals are awarded each year. On Wednesday March 29, the 2017 awardees will receive their medals and then each will give a lecture.

9:00 am: Silicate Dissolution in Cementitious Environments: The Origin of Rate Controls and Their Implications on Chemical Reactivity and Durability

Gaurav Sant, University of California, Los Angeles

9:45 am: Phosphate-Based Treatments for Conservation of Stone

Enrico Sassoni, University of Bologna

11:00 am – 1:00 pm

Shotcrete: New 506 Guide and Recent Developments—H-AMBASSADOR SALON 2

Sponsored by ACI Committees 506 and C660

Moderated by Marc Jolin, Laval University

The main objective of the session is to publicize and present the recently published new ACI 506 “Guide to Shotcrete” (published in July 2016) and demonstrate how it is now in sync with our specification document (ACI 502.6-13). The attendees’ outcome is a better knowledge of the recent (and most importantly shotcrete-related) ACI documents (Guide + Spec) and how to navigate them, as well as state-of-the-art news on technical shotcrete developments. Following this main theme for the session, the attendees will also learn of the detailed differences between shotcrete and concrete (both technically and contractually) and receive clear directive on selecting the dry or the wet process for a given job. Moreover, two selected technical presentations will bring forward the most recent development and research on the effect of bond quality on reinforcement development length and on the control of rheology to further improve in-place strength and durability.

11:00 am: The New 506R-16 Guide to Shotcrete and the 506.2R-13 Specification for Shotcrete: How They Work Together

Lars F. Balck, Concrete Consultant; and James A. Ragland, Ragland Aderman & Associates

11:40 am: Shotcrete: Creativity and Efficiency in Concrete

Charles S. Hanskat, American Shotcrete Association

12:00 pm: Dry-Mix versus Wet-Mix Shotcrete Processes: Which One is Better for My Job?

Simon Reny, King Shotcrete Solutions; and Marcus H. von der Hofen, Coastal Gunit

12:20 pm: How Rheology Control Can Improve Shotcrete Placement and Performances

Ezgi Yurdakul, GCP Applied Technologies; and Klaus Alexander Rieder, GCP Applied Technologies

Sessions & Events

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12:40 pm: The Fundamental Approach of Shotcrete Application for an Adequate Structural Use

Pasquale Basso Trujillo, Laval University; Bruno Massicotte, Ecole Polytechnique Montreal; and Marc Jolin and Benoit Bissonnette, Laval University



2 AIA/CES LU

PDH Codes: _____

11:00 am – 1:00 pm

Textile-Reinforced Mortar (FRCM) for Repair of Concrete and Masonry Structures—H-AMBASSADOR SALON 1

Sponsored by ACI Committees 549 and 562, and RILEM TC 250
Moderated by Antonio Nanni, University of Miami

The objective of the session is to present convention attendees with the latest developments on a repair technique identified as textile-reinforced mortar (TRM), also known in the United States as fabric-reinforced cementitious matrix (FRCM). TRM (FRCM) is a method for concrete and masonry strengthening that complements FRP and is receiving a high level of interest among engineers and contractors for the advantages provided by its cementitious matrix, replacing the organic resin.

11:00 am: Textile-Reinforced Concrete—Experimental Methods for the Determination of Material Properties under Static and Cyclic Loads

Karoline Holz, Dresden University of Technology; and Elisabeth Schutze, Maria Patricia Garibaldi, and Manfred H. Curbach, Dresden University of Technology

11:17 am: Strain and Crack Detection in Experimental Testing on Fabric Reinforced Cementitious Matrix Composites

Arkadiusz Kwiecien, Cracow University of Technology; Lukasz Hojdys and Piotr Krajewski, Cracow University of Technology; and Marcin Tekieli, Francesca Roscini, Gianmarco De Felice, and Stefano De Santis, Roma Tre University

11:34 am: Shear Performances of FRCM and SRG-Strengthened RC Beams

Luciano Ombres, University of Calabria; and Salvatore Verre, University of Calabria

11:51 am: Acceptance Criteria for Masonry and Concrete Strengthening Using FRCM and SRG Composites to Show Compliance with the Building Codes in the USA

Mahmut Ekenel, ICCES; and Antonio Nanni, University of Miami

12:08 pm: Flexural Load-Bearing Behavior of Masonry Strengthened with Textile-Reinforced Mortar

Dorothea Saenger, RWTH Aachen University; and Michael Raupach, RWTH Aachen University

12:25 pm: Comparison of EBR Strengthening Techniques Applied on Historical Masonry Vaults

Elvis Cescatti, University of Padua; and Claudio Modena and Francesca De Porto, University of Padua



2 AIA/CES LU

PDH Codes: _____

11:00 am – 1:00 pm

UHPC—Innovations for Broad Application—H-AMBASSADOR SALON 3

Sponsored by ACI Committee 239 and 544
Moderated by Kay Wille, University of Connecticut

Ultrahighperformance concrete (UHPC) is seen as an influential material innovation in the construction industry in the twenty-first century. Many research groups overseas as well as in the United States have studied the material and structural behavior in the last two decades. One of the most critical challenges is finding innovative approaches in material design, quality control, and structural performance to strengthen the broad application of this material. UHPC is a preferable construction material of the twenty-first century due to its excellent strength, durability, ductility, and energy dissipation capacity. The session will invite national and international research groups, material suppliers, and contractors to share their knowledge in innovations for broad application. This session fits naturally into the theme “Driving Concrete Technology.”

11:00 am: Study on the Field Thermal Curing of Ultra-High-Performance Concrete Employing Heat of Hydration

Amirpasha Peyvandi, Stantec Inc.

11:20 am: Seismic Design and Performance of UHPC Bridge Bents

Mohamed Moustafa, University of Nevada, Reno; and Christopher Joe, University of Nevada, Reno

11:40 am: Cladding Panels Made of Fiber-Reinforced UHPC

Luke R. Pinkerton, Polytorex

12:00 pm: Latex-Modified UHPC for Innovative Strengthening of RC Beams

Moneeb Genedy, University of New Mexico; and Mahmoud M. Reda Taha, University of New Mexico

12:40 pm: The Challenges and Solutions of Utilizing a Fluid UHPFRC for Large Pours

William T. Kulish, Kulish Design Company & The Steelike Concrete System



2 AIA/CES LU

PDH Codes: _____

6:30 pm – 8:00 pm

President's Reception—H-Ambassador 2 & 3

ACI President Michael Schneider invites all convention attendees to the President's Reception, where you'll have the opportunity to network with committee Chairs, chapter Presidents, and international attendees. An assortment of food and beverages will be available. Pre-registration is required for this event.



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