ACI Fall 2012 Convention Program Book

Forming Our Future
October 21-25, 2012
Sheraton Centre
Toronto, ON, Canada

Toronto photos courtesy of Doug Brown
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### ACI Fall 2012 Convention

**October 21-25, 2012**  
**Sheraton Centre**  
**Toronto, ON, Canada**

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ACI members and guests,

It is my pleasure to welcome you to the ACI Fall 2012 Convention and the city of Toronto! I would like to express my thanks and appreciation to each and every attendee for bringing their knowledge, experience, and dedication to the ACI convention. Member participation and collaboration is integral to the success of the Institute.

ACI conventions offer attendees the opportunity to network, build relationships, and share interesting and new ideas on valuable industry information. The ACI Fall 2012 Convention is no different, with an impressive program that includes over 50 technical and educational sessions, 300+ committee meetings, and events such as the Katharine and Bryant Mather Lecture Series, the Student Egg Protection Device Competition, the 100 Mile Concrete Mixer hosted by the ACI Ontario Chapter, and more. Whether you are an ACI convention veteran or are attending this convention for the very first time, it is my hope that you will have a rewarding and enriching experience that will benefit your career in concrete.

Linda and I are honored and thrilled to share this week with each one of you. We are confident that your convention experience will be both productive and memorable and we hope you get to experience all that Toronto has to offer. I would like to thank the ACI Ontario Chapter for their dedication to planning this convention; they have spent a great deal of time and effort to ensure that every attendee has a wonderful experience in the city they call home.

Kind regards,

James K. Wight
ACI President
PRIME MINISTER’S WELCOME

I am pleased to extend my warmest greetings to everyone attending the ACI Fall 2012 Convention being held in Toronto.

Concrete is widely used in Canada’s infrastructure. Our roads, buildings, sewers, bridges, and more rely on this strong, versatile, and durable building material to ensure their structural integrity. Canada’s cement and concrete industry provides employment for 27,000 Canadians, with over $8.8 billion in annual sales.

This meeting provides an ideal forum for discussing industry codes, specifications, and guides, while sharing information and viewing the latest equipment and technologies. I would like to commend the organizers of this convention for bringing a high standard of debate to the advancement of concrete technology. I am certain that everyone attending this convention will benefit from the latest developments presented here and enjoy the opportunity to network with colleagues and industry representatives.

On behalf of the Government of Canada, I offer my best wishes for a productive and memorable convention.

Stephen Harper
Prime Minister of Canada
MINISTER’S WELCOME

I am delighted to welcome you to the ACI Fall 2012 Convention in Toronto, Ontario.

Ontario is a fitting location for this important event. As many of you know, Ontario has made significant investments in public infrastructure in recent years—more than $75 billion since 2003. These investments in roads, schools, universities, and hospitals are strengthening our economy, creating jobs and building strong communities. As part of Building Together, our long-term infrastructure plan, we are continuing to build on this strong foundation by investing more than $35 billion in infrastructure over the next 3 years.

Our partners in the construction industry and ACI will continue to play an important role in our plan to renew Ontario’s infrastructure. We look to you for leadership, expertise, and innovation to ensure the infrastructure we build will meet the needs of Ontario families and businesses for years to come. This convention is an excellent opportunity for you to network and share best practices in concrete technology.

I hope you will enjoy exploring Toronto’s dynamic and diverse attractions. Please accept my best wishes for a successful event.

Bob Chiarelli
Minister of Infrastructure and Transportation
PREMIER’S WELCOME

On behalf of the Government of Ontario, I am delighted to extend warm greetings to everyone attending the ACI Fall 2012 Convention.

Since its inception in 1904, ACI has worked hard to represent the interests of its members—concrete experts from over 120 different countries. By providing invaluable professional development and networking opportunities; raising awareness of current technologies and trends; and publishing a variety of journals, periodicals, and reports, ACI does much to advance excellence in the concrete industry worldwide.

I would like to commend the ACI Ontario Chapter for the time and effort you have invested in organizing this important event. And to everyone in attendance: welcome to Canada's largest city and our provincial capital! From fine dining and world-class accommodations to unique attractions, the Greater Toronto Area offers unparalleled choice and opportunity to visitors. A warm welcome awaits you wherever you go.

Please accept my sincere best wishes for an informative and productive convention.

[Signature]

Dalton McGuinty
Premier of Ontario
MAYOR’S WELCOME

It gives me great pleasure to extend greetings and a warm welcome to everyone attending the ACI Fall 2012 Convention.

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

This year’s ACI Convention will include approximately 35 sessions and more than 200 speakers and provides an opportunity for attendees to network with experts and colleagues within the concrete industry in a setting designed for professional development.

Whether you are from Toronto or a frequent or first-time visitor, I welcome you to our city and encourage you to visit the wonderful attractions and vibrant neighborhoods Toronto is known for.

On behalf of the Toronto City Council, please accept my best wishes for a successful and informative convention.

Yours truly,

Mayor Rob Ford
City of Toronto
ACI Sustaining Members

Fibercon International, Inc.

Future Tech Consultants

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Sponsors are listed as of 9/19/12.

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Sponsors are listed as of 9/19/12.

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- Laboratoire Ville Marie - LVM Inc.

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- ACI Las Vegas Chapter
- ACI Louisiana Chapter
- ACI New Jersey Chapter
- ACI New Mexico Chapter
- ACI New York Chapter - CIB
- ACI Northeast Texas Chapter
- ACI Northern California & Western Nevada Chapter
- ACI Pittsburgh Area Chapter
- ACI Rocky Mountain Chapter
- ACI San Diego International Chapter
- ACI Southern California Chapter
- Isherwood Geostructural Engineers

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- S-FRAME Software, Inc.

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- Daily Commercial News
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Guest Program
Janet Hutter

Publicity
Michelle Aarons, Reed Business

Social Events
Melissa Titherington, Ministry of Transportation Ontario–Chair
Sherry Sullivan, Cement Association of Canada

Student Program
Dr. Mohamed Lachemi, Ryerson University

Technical Program
Neb Erakovic, Yolles, A CH2M Hill Company
Hannah Schell, Ministry of Transportation Ontario
ACI REGISTRATION         SHERATON HALL

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

Saturday  12:30 pm - 6:00 pm
Sunday    7:30 am - 5:00 pm
Monday    7:30 am - 5:00 pm
Tuesday   7:30 am - 5:00 pm
Wednesday 8:00 am - 12:00 pm

NAME BADGES
ACI uses color-coded name badges to identify attendees. The name badges are as follows:

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

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

SCHEDULE CHANGES ACI REGISTRATION
Cancellations, additions, and location changes to the convention schedule will be posted daily on a monitor in the exhibit area located in Sheraton Hall.

EMERGENCIES
In the event of an emergency, we kindly request that you do NOT dial 9-1-1. Please go to the nearest house phone to contact the operator by dialing “0” or security at extension “4400” at the Sheraton Centre Toronto.

PHOTOGRAPHS/VIDEO
ACI will take photographs and video during the ACI Fall 2012 Convention and reproduce them in ACI educational, news, or promotional material—whether in print, electronic or other media—including the ACI website. By participating in the ACI Fall 2012 Convention, you grant ACI the right to use your name, photograph, and biography for such purposes. Please note: Photographing, audio-recording, or videotaping a presentation or speaker is prohibited without the presenter’s prior written consent.
General Information

BREAKS
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: 12:00 pm - 3:30 pm

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

ALCOHOL POLICY
Nonalcoholic beer and soft drinks are available at all ACI-sponsored receptions. The legal drinking age in Toronto is 19.

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

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

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

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

CYBER STATIONS & WIRELESS HOT SPOTS         SHERATON HALL
Stay connected to home and work! Take advantage of the Cyber Stations and FREE wireless hot spots available in the exhibit area during the following hours:

Saturday       12:30 pm - 6:00 pm
Sunday-Tuesday  8:00 am - 5:00 pm
Wednesday       8:00 am - 2:00 pm

To access the wireless connection, look for ACI Cyber Café 1, ACI Cyber Café 2, ACI Cyber Café 3, or ACI Cyber Café 4 in your network connections.

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

LOCAL INFORMATION—
ACI Ontario Chapter    LOWER CONCOURSE FOYER
ACI Ontario Chapter members will be happy to answer general convention questions and provide information about the local area. Stop by their information desk during the following hours:

Saturday       12:30 pm - 6:00 pm
Sunday-Tuesday  8:00 am - 5:00 pm

PATH—PATH
PATH is downtown Toronto’s underground walkway—accessible 24 hours a day—linking 28 km (17 miles) of shopping, services, restaurants, and entertainment. Follow PATH and you’ll reach your downtown destination in weatherproof comfort! Twenty parking garages, five subway stations, two major department stores, six major hotels (including the Sheraton Centre), and a railway terminal are also accessible through PATH. For a complete business listing and map of PATH, visit www.toronto.ca/path.

RESTAURANTS
BnB Restaurant & Bar       LOBBY
This contemporary bistro and bar features burgers, classic comfort foods, and local beers.
Breakfast: 6:30 am - 11:30 am
All-day menu: 11:30 am - 11:00 pm
Late-night and bar menu: 11:00 pm - 1:00 am
General Information

Food Court
Accessible through the Concourse Level of the Sheraton Centre Toronto Hotel, the food court in the PATH has several dining options available Monday through Friday from approximately 10:00 am - 5:00 pm. Please note: the Food Court hours are subject to change according to traffic levels.

Quinn’s Steakhouse & Irish Bar
Located on the lobby level of the Sheraton Centre Toronto Hotel and open 7 days a week, Quinn’s is an Irish steakhouse and bar featuring excellent steaks, prime rib, seafood, and classic pub dishes. It is casually priced with an extensive wine list, a large selection of draft beers, and over 150 whiskies to enjoy. Come and enjoy hospitality the Irish way. Many LCD TVs and private rooms are available, as well as complimentary Wi-Fi access. Additionally, groups are welcome and the restaurant is fully wheelchair-accessible.
Monday-Friday: 7:00 am - 11:00 pm
Saturday-Sunday: 9:00 am - 11:00 pm

Shopsy’s Deli
Located on the lobby level in the Sheraton Centre Toronto Hotel and open 7 days a week, Shopsy’s has been one of Toronto’s favorite delis since 1921. The deli is open for breakfast, lunch, dinner, and takeout. Dine on award-winning deli sandwiches, burgers, and ribs. The restaurant is wheelchair-accessible. Enjoy a large selection of draft beers, LCD TVs, and complimentary Wi-Fi access. Groups and families are welcome.
Monday-Friday: 8:00 am - 10:00 pm
Saturday-Sunday: 9:00 am - 10:00 pm

Toronto Link Café
This café offers freshly brewed Starbucks® coffee, Great Canadian Bagels™, breakfast pastries, fresh fruit, and sandwich selections. It’s the perfect spot to relax and enjoy a cup of coffee while planning the day’s activities or checking e-mail with complimentary high-speed Internet at our Link@Sheraton™ experience by Microsoft®—or grab a cup to go.
Daily: 6:30 am - 2:00 pm
General Information

Room Service
Room service is available at the Sheraton Centre Toronto Hotel 24 hours a day. Dial ext. 4567 from your guest room.

TRANSPORTATION

Airport Shuttle
The Airport Express Shuttle takes about 40 minutes to reach the airport and costs $23.95 CDN one way or $39.95 CDN round trip, plus gratuity. Airport Express offers both senior and student discounts, as well as a 5% discount for online purchases. The shuttle departs from the Sheraton Centre every 30 minutes, beginning at 4:40 am until 11:10 pm. The shuttle stops at seven other hotels, four of which are between the Sheraton Centre Toronto Hotel and the airport. Tickets can be purchased online at www.torontoairportexpress.com, by calling (855) 595-5559, or in person with the driver. If paying in person with the driver, exact change is required. U.S. Dollars are accepted. Reservations are not required for the Airport Express Shuttle.

Rental Cars
Hertz is the official car rental agency for the ACI Fall 2012 Convention. Receive discounts on upgrades, weekly rentals, and weekend rentals. To make advance reservations, call (800) 654-2210 or visit www.hertz.com. Provide the group code 0077289 when making your reservation. To reach the rental car area, you must board the rental car shuttle bus located near baggage claim at the Toronto Pearson International Airport. The shuttle bus runs 24 hours a day and departs from the facility every 5 minutes.

Taxis
The approximate fare for a taxi to and from the airport is approximately $53 CDN each way.

Toronto Transit Commission (TTC)—the subway
The Sheraton Centre Toronto Hotel is conveniently located on the Yonge-University-Spadina Route. The subway operates on weekdays and Saturdays from 6:00 am to 1:30 am and Sunday from 9:00 am to 1:30 am. Route schedules can be accessed at www3.ttc.ca. Single-fare pass: $3.00 CDN Adult; $2.00 CDN Senior Day pass: $10.50 CDN Weekly pass: $54.00 CDN
SESSION ATTENDANCE TRACKING FORM
The Session Attendance Tracking Form found at the back of the program book can be submitted to state boards that allow self-reporting of Continuing Education activities as evidence of participation. In most cases, one contact hour is equal to one Professional Development Hour (PDH). Check with your state board for acceptance criteria. Codes will be given out during each session to track your attendance.

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.

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

Sunday               7:00 am - 7:00 pm
Monday and Tuesday   7:00 am - 6:00 pm
Wednesday            7:00 am - 12:00 pm

All speakers are requested to check in at the Speaker Ready Room 1 day prior to their session to ensure that:
• ACI has downloaded their presentation on the network in the session rooms; and
• Speakers’ session handouts are downloaded onto the ACI website.

ACI SPRING 2013 CONVENTION     LOWER CONCOURSE FOYER
Responsibility in Concrete Construction
Mark your calendars for the ACI Spring 2013 Convention in Minneapolis, MN, April 14-18, at the Hilton & Minneapolis Convention Center. Stop by the ACI Minnesota Chapter Desk Sunday through Tuesday to learn more about the convention and the twin cities.
Session Handouts and Presentations on Demand

Did you miss a presentation or want a copy of a session handout? Handouts and presentations are available from speakers who have elected to provide and post them to the ACI website.

Go to www.aciconvention.org/handouts to download or print a copy of the handouts for the sessions you plan to attend.

Session Disclaimer

The information presented represents the views and recommendations of the individual speaker(s) and does not necessarily represent the views of ACI or its committees. The audience is expected to exercise judgment as to the appropriate application of the information.
### Where’s That Meeting Room?

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<td>Windsor East</td>
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<td>Windsor West</td>
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<tr>
<td>York</td>
<td>Mezzanine</td>
</tr>
</tbody>
</table>
The ACI Ontario Chapter and ACI would like to thank all exhibitors for their participation in and support of the ACI Fall 2012 Convention.

Exhibit Hours
Sunday  8:00 am - 5:00 pm  
Monday  8:00 am - 5:00 pm  
Tuesday  8:00 am - 5:00 pm

Aluma Systems, Inc.  
Aluma Systems is a leader in concrete forming and shoring. Aluma Systems delivers high-efficiency concrete forming and shoring solutions to projects ranging from hotels and stadiums to airports and power plants. Their world-class engineering team is continuously developing concrete formwork product enhancements for increased safety, productivity, and customer-specific design requirements. For more information, visit www.aluma.com.

BASF Construction Chemicals, LLC  
BASF’s Construction Chemicals division is the worldwide supplier of chemical systems and formulations for the construction industry. The North American Construction Chemicals Division of BASF comprises four business lines that offer products and solutions primarily for commercial, residential, industrial, and infrastructure construction, improving durability, water resistance, energy efficiency, safety, and aesthetics. BASF’s innovative products and solutions help make products better. For additional information, contact BASF Construction Chemicals at (800) 628-9990 or visit www.masterbuilders.com.

BMH Systems  
BMH Systems is a leader in the design, manufacturing, and installation of Concrete Batch Plants. BMH Systems is focused on providing turnkey solutions to meet the specific requirements of each individual customer. BMH’s RollMaster® reversing drum mixer is the most reliable and profitable mixer on the market for the ready mix industry. Come and visit their booth and find out about the benefits of operating a RollMaster and the unique RollMaster warranty. For more information, visit www.bmhsystems.com.
Calmetrix  
**Booth #311**
Calmetrix specializes in calorimetry equipment and software used in the cement and concrete industries. Calmetrix has decades of real-life experience with calorimeters used at concrete production sites and in research laboratories. Whether you are a cement manufacturer, concrete producer, or an admixture supplier, Calmetrix can help you apply calorimetry in your daily quality control, research, and sales activities. Beyond sales support and training, Calmetrix offers expert data interpretation services and calorimetry testing at its own laboratory. For more information, visit [www.calmetrix.com](http://www.calmetrix.com).

Canada Building Materials/St. Mary’s Cement  
**Booth #102**
St. Mary’s Cement is proud to be celebrating 100 years of being a leading manufacturer of cement, ready mixed concrete, and aggregates in the United States and Canada. St. Mary’s Cement has four production facilities strategically located around the Great Lakes to best serve U.S. and Canadian customers. For additional information, visit [www.stmaryscement.com](http://www.stmaryscement.com).

Cement Association of Canada  
**Booths #303 and #305**
Cement and concrete are at the heart of communities and infrastructure. Concrete is safe, durable, resilient, energy-efficient, and infinitely versatile. Produced locally, it is clearly the sustainable building material of choice. The Cement Association of Canada, its members, and its concrete partners have embraced innovation to develop products and technologies that meet today’s construction needs while reducing emissions and waste. The Cement Association of Canada’s exhibit showcases concrete’s contribution to sustainable communities. To learn more, visit [www.cement.ca](http://www.cement.ca).

Coffey Geotechnics  
**Booth #202**
Coffey Geotechnics is an engineering consulting firm dedicated to pushing the boundaries of professional knowledge to combine cost-effective solutions with technical excellence. Coffey Geotechnics specializes in geotechnical engineering, specialized transportation and pipeline services, environmental soil and groundwater engineering, environmental permitting, workplace health and safety, mining services, dam safety reviews concrete technology and building sciences, and a full range of geotechnical and materials testing services. For more information, visit [www.coffey.com](http://www.coffey.com).
CSA Group

CSA Group is an independent, not-for-profit membership association dedicated to safety, social good, and sustainability. Its knowledge and expertise encompass standards development; training and advisory solutions; global testing and certification services across key business areas, including hazardous location and industrial, plumbing and construction, medical, safety and technology, appliances and gas, alternative energy, and lighting and sustainability; as well as consumer product evaluation services. The CSA certification mark appears on billions of products worldwide. For more information, visit [www.csa.ca](http://www.csa.ca).

Doka

Doka. The Formwork Experts. Doka is one of the world’s leading complete formwork suppliers, offering economically optimized formwork solutions and a comprehensive range of services for efficient and rapid building progress in all areas of concrete construction. With more than 160 sales and logistics facilities in over 70 countries, the Doka Group has a highly efficient distribution network that ensures that equipment and technical support can be provided fast and professionally. For more information, visit [www.doka.com](http://www.doka.com).

ERICO

ERICO is a leading designer, manufacturer, and marketer of precision-engineered specialty metal products serving global niche product markets in a diverse range of electrical, construction, utility, and rail applications. ERICO’s LENTON® is a line of reinforcing bar splicing systems and other reinforcing products used to connect steel reinforcement rods in concrete. To learn more, visit [www.erico.com](http://www.erico.com).

The Euclid Chemical Company

The Euclid Chemical Company manufactures top-quality products that meet the demands of the concrete and masonry construction industry. The Euclid Chemical Company strives to be “demonstratively better” to its customers through cutting-edge research and development, technical support and service, product training, and an education-driven specification effort. For additional information, visit [www.euclidchemical.com](http://www.euclidchemical.com).
GENEQ, Inc. 
Booth #310
GENEQ has been a scientific instrument distributor since 1972. They supply both field and lab equipment for materials testing, such as concrete, asphalt, and soil. Namely, GENEQ offers concrete compression machines, cylinder end grinders, testing sieves, electronic balances, ovens, moisture meters, reinforcing bar locators, and more. For more information, visit www.geneq.com.

Geographical Survey Systems, Inc. (GSSI) 
Booth #313
GSSI is the world leader in ground-penetrating radar equipment. Their equipment is used to explore the subsurface of the earth and nondestructively inspect infrastructure systems, such as road and railway applications, nondestructive testing (NDT) of concrete, utility locating, and bridge inspection. GSSI created the first commercial GPR system over 40 years ago and continues to provide the highest-quality GPR equipment available today. For more information, visit www.geophysical.com.

Germann Instruments, Inc. 
Booth #105
Germann Instruments is the leader in nondestructive testing (NDT) of concrete structures. Their cutting-edge, innovative product line includes advanced NDT equipment for concrete testing. For structural integrity, they provide impact-echo, mash, and MIRA/Eyecon 3-D shear wave systems. For durability, they provide service life, rheometer, PROOVEit, chloride, and profile. For freezing and thawing, they provide the EVA Analyzer and RapidAir. For fast-track construction, they produce the LOK-TEST and Coma-Meter. For corrosion surveys, they provide GalvaPulse and RapiCor. They also produce the Bond-Test and CorroEye for repair quality. For additional information, visit www.germann.org.

Giatec Scientific Inc. 
Booth #108
Giatec Scientific Inc. is a knowledge-based company that provides advanced concrete testing technologies to the construction industry. Giatec offers novel methods and devices for the performance-based quality control of concrete and accurate condition assessment of concrete infrastructure. These innovative tools are designed for various applications for concrete producers, consulting companies, and infrastructure owners and operators. To learn more, visit www.giatec.ca.
Exhibitors
Exhibitor Listing as of 9/19/12

Grace Construction Products  Booth #209
Headquartered in Cambridge, MA, Grace Construction Products is a worldwide leading manufacturer of concrete admixtures and fibers; liquid pigments for colored concrete; cement processing additives; concrete masonry products; air and vapor barriers; roofing underlayments; self-adhered window, door, and deck flashings; structural waterproofing systems; and fire protection products. For more information, visit www.grace.com.

HCM Group  Booth #115
HCM Group is a specialized foundation contractor with a developed expertise in shotcrete for temporary excavation support and permanent structural work. HCM operates in the Greater Toronto Area under HC Matcon Inc. and in Alberta under HCM Contractors Inc. Founded in 2000, they are the fastest-growing foundation group in Canada. HCM Group values teamwork, innovation, service, and sustainability. HCM Group includes RWH Engineering, which offers customers superior quality control support and design-build services. For more information, visit www.hcmatcon.ca.

Holcim Canada Inc.  Booth #309
Holcim Canada Inc. is one of the nation’s largest vertically integrated building materials and construction companies. They manufacture cement, aggregates, and ready mix concrete and provide services to many of Canada’s largest infrastructure projects. Holcim Canada Inc. is a member of Holcim Group, which operates in more than 70 countries worldwide. For additional information, visit www.holcim.ca.

Hoskin Scientific Limited  Booth #214
For over 60 years, Hoskin Scientific Limited has been the market leader in providing specialized materials testing equipment to the concrete, soil, asphalt, and petroleum industries. They are the exclusive Canadian representatives for many leading segment companies, including Proceq, ELE International (Soiltest), W. S. Tyler, Nikon Metrology, Marui, and Fourier Systems. To learn more, please visit www.hoskin.ca.
Exhibitors

Exhibitor Listing as of 9/19/12

King Packaged Materials Company Booth #103
King Packaged Materials Company has been a leading producer of preblended shotcrete mixtures for the North American construction and mining industries for over 25 years. Any King product can be customized to meet specific project requirements and can be packaged in sizes of 2000 kg (4400 lb). Products can be shipped from three production plants to project sites across North America. For more information, visit www.kpmindustries.com.

Kryton International Inc. Booth #204
Kryton International Inc. takes the risk out of concrete waterproofing. Waterproofing concrete structures since 1973, Kryton has the most complete system, which has undergone more testing and received more approvals than any other. Kryton is the leader in products for waterproofing, repairing, and protecting concrete and—most notably—the inventors of the Crystalline waterproofing admixture. For more information, visit www.kryton.com.

Lafarge North America Inc. Booth #302
Lafarge is the largest diversified supplier of construction materials in the United States and Canada. The company’s products, including cement and cement-related materials, ready mixed concrete, and aggregates, are used for residential, commercial, institutional, and public works construction. Lafarge’s EFFICIENT BUILDING™ approach offers solutions and expertise to promote efficient sustainable construction. For additional information, visit www.lafarge.com.

M&L Testing Equipment Booth #112
M&L Testing Equipment specializes in the supply, service, and calibration of destructive and nondestructive materials testing equipment for field and laboratory use. M&L Testing Equipment caters to the Canadian Council of Independent Laboratories certified laboratories, technical schools, producers of aggregate, ready mixed concrete, cement, plastics, and plastic products, as well as petroleum refineries, steel companies, automotive parts manufacturers, paving contractors, aerospace industries, consulting engineers, and food industries. To learn more, visit www.mltest.com.
MAPEI Inc.  
Booth #213
MAPEI is a global corporation and has been supplying residential and major commercial projects with total installation solutions for tile and stone, floor coverings, and decorative concrete, as well as concrete restoration for 75 years. For more information, visit www.mapei.com.

Max Frank (Canada) Inc.  
Booth #104
Max Frank has been offering quality customer-oriented solutions in construction technologies worldwide for 50 years. The company’s product line includes fiber concrete spacers, distance tubes, formwork systems (Pecafil, Stremiform, Tubbox, and Zamdrain), reinforcement innovations (Egcodorn, Stabox, and UKorb), and waterproof solutions (Cresco, Fradilex, Intec, Permur, and Swellstop). For more information, visit www.maxfrank.com.

National Concrete Accessories  
Booth #100
National Concrete Accessories has been manufacturing concrete form hardware and distributing concrete-related products across Canada for more than 50 years. National Concrete Accessories has offices in Ontario, Maritimes, and the United States to supply quality products to the concrete industry. To learn more, visit www.nca.ca.

Ontario Cast-In-Place Concrete Development Council (OCCDC)  
Booth #215
The OCCDC was established in 1999 by a number of key firms in the Ontario concrete industry. The OCCDC members represent three major stakeholder groups: employer associations (forming, reinforcing steel, and concrete); organized labor (carpenters, ironworkers, and laborers); and industry suppliers (formwork materials). The primary objectives of the OCCDC are promotion of cast-in-place concrete as a superior building system; education of all industry stakeholders with respect to technical issues and market trends; and improved communication, exchange of information, understanding, cooperation, and cohesion among industry stakeholders. For additional information, visit www.occdc.org.
PERI Formwork Systems Inc.  
**Booth #211**
PERI is one of the world’s largest manufacturers and suppliers of formwork, shoring, and scaffolding systems. In addition to its innovative products, PERI offers engineering, planning, special software, rental services, and logistics support. For more information, visit [www.peri-usa.com](http://www.peri-usa.com).

Proceq USA, Inc.  
**Booth #212**
Proceq USA, Inc., a global leader in portable nondestructive testing (NDT) instruments for concrete structures, will be displaying its latest innovations in NDT instruments. New products include the Resipod concrete surface resistivity meter and the new portable, handheld Handy Search ground-penetrating radar. Other instruments on display will include Proceq’s range of reinforcing bar detection equipment, ultrasonic testing instruments, corrosion analysis instruments, pulloff adhesion testing equipment, and uniformity/strength evaluations of structures with the complete range of Original Schmidt concrete test hammers. For more information, visit [www.proceq.com](http://www.proceq.com).

Reed Construction Data  
**Booth #114**
Reed Construction Data is Canada’s most comprehensive provider of integrated information solutions to the construction industry. Serving the Canadian construction industry since 1911, Reed Construction Data, publisher of the *Daily Commercial News*, is Canada’s authoritative source for industry news and information solutions. For additional information, visit [www.reedconstructiondata.com](http://www.reedconstructiondata.com).

Ryerson University  
**Booth #113**
Learn about Ryerson University’s innovative, career-focused education and ambitious research agenda from graduate students and professors in civil engineering and architectural science. From the latest developments in construction materials incorporating industrial by-products to looking at sustainable solutions for the built environment, you will be amazed. To learn more, visit [www.ryerson.ca](http://www.ryerson.ca).
S-FRAME Software Inc.  Booth #312
Since 1981, structural engineers worldwide have chosen to use S-FRAME®, S-CONCRETE®, and S-STEEL® on simple and complex projects in terms of geometry, material models, loading conditions, and analysis and design requirements because of the products' depth of capabilities, ease of use, accuracy, detailed reports, and the dedication of the customer support staff. S-FRAME’s mission is to provide easy-to-use, accurate, and reliable structural engineering analysis and design solutions through their suite of tools. For more information, visit www.s-frame.com.

Sensors & Software Inc.  Booth #106
Sensors & Software Inc. is recognized worldwide as a leading manufacturer of ground-penetrating radar. Conquest™ delivers fast, real-time imaging to evaluate, drill, or cut structures on-site; locate reinforcing bar, conduits, post-tensioning cables, and reinforcing wire mesh; and transfer data to a personal computer. The power cable detection feature enables delineation of current-carrying power cables. For more information, visit www.sensoft.ca.

Sika Canada, Inc.  Booth #208
Sika Canada, Inc. has been at the forefront of solutions for new technologies for over a century. As a global group, the organization remains firmly committed to playing an active role in the building and rehabilitation of structures and the extension of their service lives, while contributing to a sustainable, natural environment. To learn more, visit www.can.sika.com.

Silica Fume Association  Booth #205
The Silica Fume Association provides high-performance concrete information to the construction industry—a valuable material for today’s sustainable concrete mixtures. Silica fume is available waste material used in today’s sustainable concrete mixtures. For additional information, visit www.silicafume.org.

SIMCO Technologies, Inc.  Booth #111
SIMCO Technologies, Inc., offers integrated solutions for the optimum design and maintenance of concrete infrastructure. STADIUM®, its leading-edge service-life predictive software, reliably predicts concrete degradation kinetics and time-to-initiate reinforcing steel corrosion. SIMCO Technologies solutions serve all parties vested in developing safe, sustainable, and cost-effective concrete structures. For additional information, visit www.simcotechnologies.com.
STRUCTURAL TECHNOLOGIES  Booth #210
STRUCTURAL TECHNOLOGIES was created in the early 1980s as part of STRUCTURAL to develop proprietary products, processes, and systems. STRUCTURAL TECHNOLOGIES is comprised of product development, engineering, and technical service experts supporting specialized solutions groups, such as strengthening, post-tensioning, cathodic protection, force protection, concrete repair, and waterproofing. For more information, visit www.structural.net.

Tekla Structures, Inc.  Booth #308
Tekla Structures is a building information modeling (BIM) solution for concrete contractors, reinforcing bar detailers, and structural engineers. Tekla Structures provides a model-based solution where all construction details are stored in one central 3-D model. Tekla offers detailed reports providing a wide array of data available in an instant. Tekla Structures can display, use, and export models generated by other BIM solutions. It can also be used for activities such as site planning, scheduling, material tracking, and more. For additional information, visit www.tekla.com.
## Exhibitor Demonstrations

### Monday, October 22, 2012

<table>
<thead>
<tr>
<th>Time</th>
<th>Exhibitor</th>
<th>Presentation/Demo Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 am</td>
<td>Sensors &amp; Software</td>
<td>Imaging Concrete Structures with Ground-Penetrating Radar</td>
</tr>
<tr>
<td>12:45 pm</td>
<td>PERI Formwork Systems, Inc.</td>
<td>Civil Projects–Using PERI’s VERIOKIT</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>IBB Rheology</td>
<td>The New IBB Probe Technology</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>Giatec Scientific Inc.</td>
<td>Performance-Based Quality Control of Concrete</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Ryerson University</td>
<td>Development of Sustainable, Unshrinkable Fill Using Alternative Aggregate Sources</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>Doka</td>
<td>—</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>Germann Instruments</td>
<td>3D Tomography with Impact-Echo</td>
</tr>
</tbody>
</table>

### Tuesday, October 23, 2012

<table>
<thead>
<tr>
<th>Time</th>
<th>Exhibitor</th>
<th>Presentation/Demo Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 am</td>
<td>Germann Instruments</td>
<td>Non-Destructive Testing Equipment for Structural Integrity Evaluation: 3D Tomography, Impact-Echo and Impulse Response</td>
</tr>
<tr>
<td>9:45 am</td>
<td>Giatec Scientific Inc.</td>
<td>A Novel Technology for Corrosion Detection in Reinforced Concrete Bridges</td>
</tr>
<tr>
<td>10:30 am</td>
<td>GSSI</td>
<td>GPR for the Concrete Industry</td>
</tr>
<tr>
<td>11:15 am</td>
<td>HCM Group</td>
<td>Sustainable Engineering Design Audit (SEDA)</td>
</tr>
<tr>
<td>12:00 pm</td>
<td>Kryton International, Inc.</td>
<td>Waterproofing Concrete vs. Waterproofing a Concrete Structure</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>S-FRAME</td>
<td>Comprehensive and Intuitive Design of Reinforced Concrete Beams, Columns, and Walls with S-CONCRETE</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Doka</td>
<td>—</td>
</tr>
</tbody>
</table>
ACI committees are recognized for providing widely accepted standards of practice for nearly every facet of the concrete industry thanks to the participation of professionals across the concrete industry.

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

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

If you are interested in joining a committee, visit http://www.concrete.org/COMMITTEES/COM_JOIN.asp and fill out the online application or ask the committee chair for an application!
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.
✓ = Separate fee required  ★ = Guest-only event  TG = Task Group

Friday, October 19, 2012
6:30 pm - 9:00 pm
TAC  Technical Activities M1  CONFERENGE G

Saturday, October 20, 2012
7:00 am - 6:00 pm
TAC  Technical Activities M2  CONFERENGE G

9:00 am - 6:00 pm
347  Formwork M1  CONFERENGE E

10:00 am - 12:00 pm
562-D  Eval, Repair & Rehab - Structural Repair
       Design M1  WINDSOR EAST

12:00 pm - 4:00 pm
301  Specifications M1  CONFERENGE F

12:30 pm - 6:00 pm
ACI Registration  SHERATON HALL

1:00 pm - 4:00 pm
562-D  Eval, Repair & Rehab - Structural Repair
       Design M2  WINDSOR EAST

1:00 pm - 5:00 pm
EAC  Educational Activities M1  CONFERENGE D

1:00 pm - 5:00 pm - Session
       Concrete Sustainability Forum and Panel
       Discussion (Fifth Anniversary)  CIVIC SOUTH

1:00 pm - 6:00 pm
562-F  Eval, Repair & Rehab - General  WINDSOR WEST

2:00 pm - 6:00 pm
ACI Bookstore
Afternoon Soda Break  SHERATON HALL

4:00 pm - 6:00 pm
562-A  Eval, Repair & Rehab - Life Safety  CONFERENGE F
562-C  Eval, Repair & Rehab - Structural Analysis M1  WINDSOR EAST
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.
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Saturday, October 20, 2012 (cont.)

5:00 pm - 6:30 pm
Concrete Sustainability Forum Fifth Anniversary Reception  ESSEX

(Registered Forum attendees only)

6:00 pm - 9:00 pm

562-E Eval, Repair and Rehab - Durability Qlty Assurance  CONFERENCE F

7:00 pm - 9:00 pm

347-A Formwork - Specification  CONFERENCE E
562-C Eval, Repair & Rehab - Structural Analysis M2  WINDSOR EAST

Sunday, October 21, 2012

7:00 am - 8:30 am
301-SC Spec - Steering Committee  PEEL

7:00 am - 10:00 am
★ Guest Hospitality  CITY HALL
Coffee Break  SHERATON HALL

7:00 am - 2:00 pm
TAC Technical Activities M3  CONFERENCE G

7:00 am - 7:00 pm
Speaker Ready Room  OXFORD

7:30 am - 9:00 am
C650 Tilt-Up Constructor Cert  COSMOPOLITAN

7:30 am - 5:00 pm
ACI Registration  SHERATON HALL

8:00 am - 8:30 am
408-A Mech Splices  ICE PALACE

8:00 am - 9:00 am
★ Guest Overview  CITY HALL
546-B Repair - Material Selection Guide  ELGIN
Convention Orientation Breakfast  CONFERENCE B&C
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.
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Sunday, October 21, 2012 (cont.)

8:00 am - 9:30 am
341-C  Equake Res Brdgs - Retrofit  YORK

8:00 am - 10:00 am
E706  Repair Application Procedures  DUFFERIN
S801  Student Activities  PINNACLE
445-B  Shear & Torsn - Seismic Shear  WENTWORTH

8:00 am - 10:30 am
CLC  Construction Liaison  KENT

8:00 am - 11:00 am
TACRG1  TAC Review Group 1  CONFERENCE E
TACRG2  TAC Review Group 2  CONFERENCE D
TACRG3  TAC Review Group 3  CONFERENCE F

8:00 am - 5:00 pm
ACI Bookstore  SHERATON HALL
Exhibits  SHERATON HALL

8:30 am - 10:00 am
342  Bridge Evaluation  SIMCOE
440-M  FRP - Repair of Masonry Str  ESSEX

8:30 am - 11:30 am
MEMC  Membership  WINDSOR WEST
314  Simplified Design Buildings  GINGERSNAP
315-B  Detailing - Constructibility  WINDSOR EAST
350-C  Env Str - Reinf & Devel  CARLETON
408  Development and Splicing  ICE PALACE

8:30 am - 12:00 pm
301  Specifications M2  EXECUTIVE

8:30 am - 12:30 pm
347  Formwork M2  OSGOODE EAST

8:45 am - 5:15 pm
✓ Beauty of Hylebrand Estate  DEPART MAIN LOBBY

Cancelled
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.

- = Separate fee required  ★ = Guest-only event  TG = Task Group

**Sunday, October 21, 2012 (cont.)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 am - 12:00 pm</td>
<td>546-C  Repair - Guide</td>
<td>ELGIN</td>
</tr>
<tr>
<td></td>
<td>551  Tilt Up</td>
<td>HURON</td>
</tr>
<tr>
<td>9:00 am - 5:00 pm</td>
<td>132  Responsibility</td>
<td>KENORA</td>
</tr>
<tr>
<td>9:30 am - 11:00 am</td>
<td>341-B  Equake Res Brdgs - Pier Walls</td>
<td>YORK</td>
</tr>
<tr>
<td></td>
<td>506-A  Shotcreting - Evaluation</td>
<td>GOLD RUSH</td>
</tr>
<tr>
<td>9:30 am - 12:30 pm</td>
<td>228  Nondestructive Testing</td>
<td>GRAND EAST</td>
</tr>
<tr>
<td>10:00 am - 10:30 am</td>
<td>549-TG2  Report on Thin Reinforced Cementitious Products/ Analysis &amp; Design Tools</td>
<td>PEEL</td>
</tr>
<tr>
<td>10:00 am - 11:30 am</td>
<td>E701  Materials for Concrete Construction</td>
<td>DUFFERIN</td>
</tr>
<tr>
<td></td>
<td>440-TG2  FRP - Task Group Repair Material Spec</td>
<td>ESSEX</td>
</tr>
<tr>
<td>10:00 am - 12:00 pm</td>
<td>IC-Part  International Partnerships &amp; Publications</td>
<td>CONFERENCE C</td>
</tr>
<tr>
<td></td>
<td>562-B  Eval, Repair &amp; Rehab - Loads</td>
<td>SIMCOE</td>
</tr>
<tr>
<td>10:00 am - 1:00 pm</td>
<td>421  Reinf Slabs</td>
<td>PINNACLE</td>
</tr>
<tr>
<td>10:00 am - 4:00 pm</td>
<td>★Guest Lounge</td>
<td>CHURCHILL</td>
</tr>
<tr>
<td>10:00 am - 5:00 pm</td>
<td>Art of Concrete Student Competition</td>
<td>OSGOODE WEST</td>
</tr>
<tr>
<td>10:30 am - 12:00 pm</td>
<td>376-01  Steering Subcommittee</td>
<td>KENT</td>
</tr>
<tr>
<td>10:30 am - 1:30 pm</td>
<td>445-A  Shear &amp; Torsn - Strut &amp; Tie</td>
<td>SPINDRIFT</td>
</tr>
</tbody>
</table>
Daily Program

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Sunday, October 21, 2012 (cont.)

10:30 am - 4:30 pm
Student Egg Protection Device Competition
LOWER CONCOURSE FOYER

11:00 am - 12:00 pm
343-A Design PEEL

11:00 am - 12:30 pm
201-A Durability - Sulfate Attack COSMOPOLITAN
341-A Equake Res Bdrg - Columns YORK
506-G Qualifications for Projects CONFERENCE B

11:00 am - 1:00 pm
C640 Craftsman Cert CONFERENCE D
351-TG1 Spec for Cementitious Grouting between Foundations & Equipment Bases CONFERENCE E
549 Thin Reinforced GOLD RUSH

11:30 am - 1:00 pm
HTC Hot Topic SPRING SONG
221 Aggregates WINDSOR EAST
335 Composite Hybrid WINDSOR WEST
350-SC Env Str - Steering Comm DUFFERIN
374-TG2 Protocol for Testing RC - Structural Elements GINGERSNAP
441-E Columns Multi-Spiral Reinf CARLETON

11:30 am - 1:30 pm
✓ International Lunch CITY HALL

12:00 pm - 2:00 pm
237-TG1 Self-Consolidating Concrete Task Group ELGIN

12:00 pm - 3:00 pm
362-A Parking Str - Standard SIMCOE

12:00 pm - 3:30 pm
Afternoon Soda Break SHERATON HALL

12:30 pm - 2:00 pm
130-F Social Issues PEEL
445-E Shear & Torsn - SOA Torsion CONFERENCE F
## Daily Program

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### Sunday, October 21, 2012 (cont.)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:30 pm - 4:30 pm</td>
<td></td>
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<tr>
<td>301-B</td>
<td>Spec - Formwork &amp; Reinforcement</td>
<td>CONFERENCE C</td>
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<tr>
<td>301-H</td>
<td>Spec - Tilt-Up Constr &amp; Arch Conc</td>
<td>COSMOPOLITAN</td>
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<td>1:00 pm - 2:30 pm</td>
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<tr>
<td>369</td>
<td>Seismic Rehab M1</td>
<td>ICE PALACE</td>
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<tr>
<td>533</td>
<td>Precast Panels</td>
<td>WINDSOR WEST</td>
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<td>1:00 pm - 3:00 pm</td>
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<tr>
<td>351-C</td>
<td>Equip Fdns - Dynamic Foundations</td>
<td>GINGERSNAP</td>
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<tr>
<td>376-B</td>
<td>Materials Subcommittee</td>
<td>KENT</td>
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<tr>
<td>445-C</td>
<td>Shear &amp; Torsn - Punching Shear</td>
<td>WINDSOR EAST</td>
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<tr>
<td>1:00 pm - 3:00 pm - Sessions</td>
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<tr>
<td></td>
<td>Perspectives on Service Life</td>
<td>CIVIC NORTH</td>
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<td></td>
<td>Site Casting New Form: Inspiring</td>
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<td></td>
<td>Function to Respond</td>
<td>DOMINION NORTH</td>
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<td></td>
<td>The Art of Designing Ductile Concrete</td>
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<tr>
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<td>in the Past 50 Years: The Impact of the PCA Book and Mete A. Sozen, Part 1 of 2</td>
<td>CIVIC SOUTH</td>
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<td>The Business Case for Social Media:</td>
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<td>How Social Media Can Build Your Individual and Professional Brand</td>
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<td>in the Construction Industry</td>
<td>DOMINION SOUTH</td>
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<td>1:00 pm - 3:30 pm</td>
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<tr>
<td>341-D</td>
<td>Perf Based Seismic Design</td>
<td>YORK</td>
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<td>1:00 pm - 4:00 pm</td>
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<tr>
<td>423-E</td>
<td>Prestress - Losses</td>
<td>DUFFERIN</td>
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<td>1:00 pm - 5:00 pm</td>
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<tr>
<td>301-C</td>
<td>Spec - Placing Consolidating &amp; Curing</td>
<td>GOLD RUSH</td>
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<tr>
<td>301-D</td>
<td>Spec - Lightweight &amp; Massive Concrete</td>
<td>SPRING SONG</td>
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<tr>
<td>301-G</td>
<td>Spec - Shrink Comp Conc &amp; Ind Floor Slabs</td>
<td>CARLETON</td>
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<tr>
<td>336</td>
<td>Footings</td>
<td>CONFERENCE D</td>
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<tr>
<td>350-E</td>
<td>Env Str - Precast/Prestressed</td>
<td>CONFERENCE B</td>
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<tr>
<td>562</td>
<td>Eval, Repair &amp; Rehab</td>
<td>PROVINCIAL</td>
</tr>
</tbody>
</table>
Daily Program

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Sunday, October 21, 2012 (cont.)

1:30 pm - 3:00 pm
440-D Research Development and Applications  OSGOODE EAST
506-B Shotcreting - Fiber-Reinforced  SPINDRIFT

1:30 pm - 3:30 pm
345 Bridge Construction  HURON

1:30 pm - 5:00 pm
355 Anchorage  ESSEX

2:00 pm - 3:00 pm
310-TG1 Curing Decorative Concrete  CONFERENCE E

2:00 pm - 4:00 pm
215 Fatigue  WENTWORTH
305 Hot Weather  ELGIN

2:00 pm - 5:00 pm
315 Detailing  PINNACLE
352 Joints  PEEL

2:30 pm - 3:30 pm
318-EA 318 Electronic Aids  ICE PALACE

2:30 pm - 5:00 pm
224 Cracking  WINDSOR WEST

3:00 pm - 5:00 pm
121 Quality Assurance  WINDSOR EAST
301-E Spec - Post-Tensioned Concrete  CONFERENCE E
309 Consolidation  GINGERSNAP
341 Earthquake-Resistant Bridges  OSGOODE EAST
376-C Analysis Subcommittee  KENT
440-L FRP - Durability  GRAND EAST
445-D Shear & Torsion - Database  SIMCOE
550 Precast Structures  SPINDRIFT

3:00 pm - 5:30 pm
310 Decorative Concrete  EXECUTIVE
Daily Program

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Sunday, October 21, 2012 (cont.)

3:30 pm - 5:00 pm
Intl-Cert International Certification  YORK
236-D Material Science - Nanotechnology of Concrete M1  ICE PALACE
439-A Steel-Reinforcement - Wire  CONFERENCE G

3:30 pm - 5:30 pm
423/445 Adhoc Grp on Shear in Prestress Conc  HURON

3:30 pm - 5:30 pm - Sessions
Emerging Technologies in the Concrete Industry  DOMINION NORTH
Placement of Epoxy Grouts in an Industrial Environment  CIVIC NORTH
Teaching Sustainability to Current and Future Engineers  DOMINION SOUTH
The Art of Designing Ductile Concrete in the Past 50 Years: The Impact of the PCA Book and Mete A. Sozen, Part 2 of 2  CIVIC SOUTH

4:00 pm - 5:00 pm
S805 Collegiate Concrete Council  DUFFERIN

4:00 pm - 5:30 pm
123 Research  ELGIN

5:45 pm - 7:00 pm
Opening Session and Katharine and Bryant Mather Lecture Series  GRAND WEST & CENTRE

7:00 pm - 8:00 pm
Opening Reception  SHERATON HALL
Daily Program

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Sunday, October 21, 2012 (cont.)

8:00 pm - 10:00 pm - Sessions
123 Forum: Do We Know Enough to Manage and Mitigate ASR Deteriorations in New and Existing Concrete Structures? CIVIC SOUTH

Hot Topic Session: Certification of Concrete Testing: Does it Ensure Quality? CIVIC NORTH

9:00 pm - 10:30 pm
Student and Young Professional Networking Event BnB RESTAURANT & BAR

Monday, October 22, 2012

6:30 am - 8:00 am
Workshop for Technical Committee Chairs GRAND WEST

7:00 am - 8:30 am
Speaker Development Breakfast ESSEX

7:00 am - 10:00 am
★ Guest Hospitality CITY HALL
Coffee Break SHERATON HALL

7:00 am - 6:00 pm
Speaker Ready Room OXFORD

7:15 am - 8:30 am
IC-Conf International Conferences GINGERSNAP

7:30 am - 5:00 pm
ACI Registration SHERATON HALL

8:00 am - 9:00 am
441-A High-Strength Concrete KENORA

8:00 am - 10:00 am
376-D Design & Construction Subcommittee PEEL

8:00 am - 5:00 pm
ACI Bookstore Exhibits SHERATON HALL
Monday, October 22, 2012 (cont.)

8:15 am - 9:00 am
343-B Bridge Deck Design ICE PALACE

8:15 am - 11:00 am
237 Self-Consolidating Concrete GRAND CENTRE
349-C Nuclear Str - Anchorage CONFERENCE C
548-A Polymers - Overlays SPRING SONG

8:15 am - 12:00 pm
374 Seismic Design SPINDRIFT

8:30 am - 9:30 am
S802 Teaching Methods and Educational Materials COSMOPOLITAN

8:30 am - 10:00 am
PUBC Publications GINGERSNAP
130-A Materials OSGOODE EAST
311 Inspection DUFFERIN
318-L International Liaison CONFERENCE B
439 Steel Reinforcement ESSEX
440-E FRP - Prof Education NORFOLK
524 Plastering KENT
544-SC FRC - Steering Committee EXECUTIVE

8:30 am - 10:30 am
ACI Career Networking Event OSGOODE WEST
Complimentary Professional Headshots OSGOODE WEST

8:30 am - 10:30 am - Sessions
Advancements in the Use of Building Information Modeling (BIM) Systems, Part 1 of 2 DOMINION SOUTH
Portland-Limestone Cements: A Technology to Improve the Sustainability of Concrete CIVIC NORTH
Research in Progress, Part 1 of 2 DOMINION NORTH
Things They Don’t Teach You in School CIVIC SOUTH
Daily Program

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Monday, October 22, 2012 (cont.)

8:30 am - 11:00 am
C610  Field Technician Cert  CONFERENCE F
506-C  Shotcreting - Guide  HURON

8:30 am - 11:30 am
209  Creep & Shrinkage  GOLD RUSH
543  Piles  CARLETON
546  Repair  SIMCOE

8:30 am - 12:00 pm
301-A  Spec - Gen Req, Definitions & Tolerances  CONFERENCE D

8:30 am - 12:30 pm
423  Prestressed  PINNACLE

8:30 am - 1:00 pm
302  Floor Construction  GRAND EAST
350-B  Env Str - Durability  CONFERENCE E

8:30 am - 6:30 pm
350-D  Env Str - Structural  YORK

9:00 am - 10:00 am
441-B  Lateral Reinf  KENORA

9:00 am - 11:00 am
365  Service Life  ICE PALACE

9:00 am - 12:00 pm
✓ Acquaint Yourself with Toronto  DEPART MAIN LOBBY

9:30 am - 12:30 pm
301-F  Spec - Precast Concrete Panels  COSMOPOLITAN

10:00 am - 11:30 am
440-J  FRP - Stay-in-Place Forms  OSGOODE EAST

10:00 am - 12:00 pm
343  Bridge Design  GINGERSNAP
351-D  Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures  CLUB BOARDROOM
376-A  Code, Education & Publication Subcommittee  PEEL
Daily Program

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Monday, October 22, 2012 (cont.)

10:00 am - 12:30 pm
377-FM  Performance-Based Structural
        Integrity & Resilience of
        Concrete Structures  NORFOLK

10:00 am - 1:00 pm
207  Mass Concrete  EXECUTIVE
216  Fire Resistance  KENT
232-A  Fly Ash - Use of Nat Pozzolans  CONFERENCE B
318-B  Reinforcement & Development M1  ESSEX
318-E  Shear and Torsion M1  KENORA

10:00 am - 4:00 pm
★ Guest Lounge  CHURCHILL

10:30 am - 12:30 pm
437  Strength Evaluation  DUFFERIN

10:30 am - 5:00 pm
Exhibitor Demonstrations  OSGOODE WEST

11:00 am - 12:00 pm
364-TG1  Rehabilitation Guide  CONFERENCE C

11:00 am - 12:30 pm
506-E  Shotcreting - Specifications  WINDSOR WEST
548-C  Structural Polymer Design  SPRING SONG

11:00 am - 1:00 pm - Sessions
Advancements in the Use of
Building Information Modeling
(BIM) Systems, Part 2 of 2  DOMINION SOUTH

Blast Testing for Structural
Performance Verification  CIVIC SOUTH

Research in Progress, Part 2 of 2  DOMINION NORTH

UHPC—Experience and Developments,
Part 1 of 2  CIVIC NORTH
Daily Program

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Monday, October 22, 2012 (cont.)

11:00 am - 1:30 pm
447 Finite Element Analysis M1
ICE PALACE

11:30 am - 12:30 pm
213-TG1 Lightweight - Editorial TG
CITY HALL

11:30 am - 1:00 pm
201-D Durability - Oversight Committee
CARLETON
304 Measuring/Mix/Trans/Placing
OSGOODE EAST
346 CIP Pipe
GOLD RUSH
544-A FRC - Production & Applications
HURON

11:30 am - 1:30 pm
✓ Student Lunch
GRAND WEST

11:30 am - 2:00 pm
441 Columns
GRAND CENTRE

12:00 pm - 1:00 pm
343-D Loads
GINGERSNAP

12:00 pm - 2:00 pm
214 Strength Tests M1
CONFERENCE C
351-TG2 Specification for Epoxy Grouting between Foundations & Equipment Bases
CLUB BOARDROOM

12:00 pm - 3:30 pm
Afternoon Soda Break
SHERATON HALL

12:30 pm - 2:00 pm
124 Aesthetics
DUFFERIN
213 Lightweight
WINDSOR WEST
350-H Env Str - Editorial
COSMOPOLITAN

12:30 pm - 4:30 pm
349-A&B Nuclear Structures - Design & Materials
CITY HALL

1:00 pm - 2:00 pm
130-B Production/Transport/Construction
WENTWORTH
## Daily Program

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### Monday, October 22, 2012 (cont.)

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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1:00 pm - 2:30 pm</td>
<td>C631 Conc Transportation Const Insp</td>
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<td>ISO/TC 71 ISO/TC 71 Advisory Cmte</td>
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<td>HURON KENT</td>
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<tr>
<td>1:00 pm - 3:00 pm</td>
<td>C660 Shotcrete Nozzleman Cert</td>
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<td>228-A NDT Technician Certification</td>
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<td>364 Rehabilitation</td>
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<td>440-H FRP - Reinforced Concrete</td>
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<td>KENORA CARLETON SIMCOE OSGOODE EAST</td>
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<tr>
<td>1:00 pm - 3:30 pm</td>
<td>375 Design for Wind Loads</td>
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<td>GINGERSNAP</td>
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<tr>
<td>1:00 pm - 4:00 pm</td>
<td>225 Hydraulic Cements</td>
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<td>232 Fly Ash &amp; Natural Pozzolans</td>
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<td>376 RLG Containment Structures</td>
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<td>CONFERENCE E SIMCOE OSGOODE EAST</td>
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<tr>
<td>1:00 pm - 5:00 pm</td>
<td>301 Specifications M3</td>
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<td></td>
<td>362 Parking Structures</td>
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<td>PINNACLE SPINDRIFT</td>
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<tr>
<td>1:30 pm - 3:30 pm</td>
<td>S806 Young Professional Activities</td>
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<td>SPRING SONG</td>
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<tr>
<td>1:30 pm - 3:30 pm - Sessions</td>
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<td>Emerging Technologies, Part 1 of 2 DOMINION SOUTH</td>
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<tr>
<td></td>
<td>Forming a Framework for Performance-Based Seismic Design of Concrete</td>
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<tr>
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<td>Bridges, Part 1 of 2 CIVIC SOUTH</td>
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<td></td>
<td>Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement,</td>
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<td>Part 1 of 2 DOMINION NORTH</td>
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<tr>
<td></td>
<td>Shrinkage-Compensating Concrete—Past, Present, and Future, Part 1 of 2 CIVIC NORTH</td>
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Daily Program

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Monday, October 22, 2012 (cont.)

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<thead>
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<th>Time</th>
<th>Session Description</th>
<th>Location</th>
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<tr>
<td>2:00 pm - 3:30 pm</td>
<td>231 Early Age</td>
<td>CONFERENCE C</td>
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<td>318-S Spanish Translation</td>
<td>EXECUTIVE</td>
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<td>348 Safety</td>
<td>CONFERENCE G</td>
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<tr>
<td></td>
<td>564-FM Evaluation, Repair and Rehabilitation of Nuclear Concrete Structures</td>
<td>WENTWORTH</td>
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<tr>
<td>2:00 pm - 5:00 pm</td>
<td>CAC Chapter Activities</td>
<td>ICE PALACE</td>
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<td>MKTC Marketing</td>
<td>WINDSOR EAST</td>
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<td>130 Sustainability M1</td>
<td>GRAND CENTRE</td>
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<td>212 Chemical Admixtures</td>
<td>COSMOPOLITAN</td>
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<td></td>
<td>307 Chimneys</td>
<td>WINDSOR WEST</td>
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<td>2:00 pm - 6:00 pm</td>
<td>369 Seismic Rehab M2</td>
<td>GOLD RUSH</td>
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<td>445 Shear &amp; Torsion</td>
<td>CONFERENCE F</td>
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<tr>
<td>2:00 pm - 6:30 pm</td>
<td>360 Slabs on Ground</td>
<td>GRAND EAST</td>
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<tr>
<td>2:30 pm - 4:30 pm</td>
<td>351 Equip Foundations</td>
<td>NORFOLK</td>
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<td>548-B Polymers - Adhesives</td>
<td>KENT</td>
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<tr>
<td>2:30 pm - 5:00 pm</td>
<td>370 Blast and Impact Load Effects</td>
<td>HURON</td>
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<tr>
<td>3:00 pm - 5:00 pm</td>
<td>506-F Shotcreting - Underground</td>
<td>CARLETON</td>
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<td>3:00 pm - 6:00 pm</td>
<td>440-F FRP - Repair Strengthening</td>
<td>OSGOODE EAST</td>
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<td>3:30 pm - 5:00 pm</td>
<td>★ Guest Social Guide for Selecting Proportions for Pumpable Concrete</td>
<td>ESSEX</td>
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<td>211-P Guide for Selecting Proportions for Pumpable Concrete</td>
<td>SPRING SONG</td>
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<td>214 Strength Tests M2</td>
<td>KENORA</td>
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<td>435 Deflection</td>
<td>CONFERENCE C</td>
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<td>446 Fracture Mechanics</td>
<td>GINGERSNAP</td>
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<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>3:30 pm - 5:30 pm</td>
<td>239 Ultra-High-Performance Concrete</td>
<td>SIMCOE</td>
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<tr>
<td>3:30 pm - 6:00 pm</td>
<td>544-D FRC - Structural Uses</td>
<td>EXECUTIVE</td>
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<tr>
<td>3:30 pm - 6:30 pm</td>
<td>350-J Env Str - Education</td>
<td>CONFERENCE G</td>
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</table>
| 4:00 pm - 6:00 pm | **Sessions**  
Analysis and Design Issues in Liquid-Containing Structures, Part 1 of 3 | GRAND WEST         |
|               | Emerging Technologies, Part 2 of 2                                                                 | DOMINION SOUTH    |
|               | Forming a Framework for Performance-Based Seismic Design of Concrete                              | CIVIC SOUTH       |
|               | Reinforced Concrete Columns with High-Strength Concrete and Steel                                 | DOMINION NORTH    |
|               | Shrinkage-Compensating Concrete—Past, Present, and Future, Part 2 of 2                            | CIVIC NORTH       |
| 4:30 pm - 5:30 pm | 236 Material Science                                                                             | CITY HALL         |
| 5:00 pm - 6:00 pm | 334 Shells                                                                                       | SPRING SONG       |
| 5:00 pm - 6:30 pm | **Sessions**  
E702 Designing Concrete Structures                                                                 | GINGERSNAP        |
|               | 318-TGF Task Group Foundation                                                                     | WINDSOR WEST      |
|               | 447 Finite Element Analysis M2                                                                     | CONFERENCE C      |
|               | 544-E FRC - Mechanical Properties                                                                  | HURON             |
|               | 555 Recycled                                                                                     | ICE PALACE        |
| 5:00 pm - 7:00 pm | E703 Concrete Construction Practices                                                              | WINDSOR EAST      |
**Daily Program**

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<th>Location</th>
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<tbody>
<tr>
<td>6:00 pm - 7:00 pm</td>
<td>Women in ACI Reception</td>
<td>CHURCHILL</td>
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<tr>
<td>6:30 pm - 8:00 pm</td>
<td>★ Hope &amp; Schupack Honorary Reception</td>
<td>ESSEX</td>
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</table>

### Tuesday, October 23, 2012

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 am - 8:30 am</td>
<td>TTAG Technology Transfer Advisory Group</td>
<td>ICE PALACE</td>
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<tr>
<td>7:00 am - 8:30 am</td>
<td>TRRC TAC Repair &amp; Rehab</td>
<td>CONFERENCE F</td>
</tr>
<tr>
<td>7:00 am - 9:00 am</td>
<td>Disaster Response Task Group</td>
<td>CONFERENCE E</td>
</tr>
<tr>
<td>7:00 am - 10:00 am</td>
<td>★ Guest Hospitality</td>
<td>CITY HALL</td>
</tr>
<tr>
<td>7:00 am - 6:00 pm</td>
<td>Speaker Ready Room</td>
<td>OXFORD</td>
</tr>
<tr>
<td>7:30 am - 9:00 am</td>
<td>130-G Education/Certification</td>
<td>HURON</td>
</tr>
<tr>
<td>7:30 am - 5:00 pm</td>
<td>ACI Registration</td>
<td>SHERATON HALL</td>
</tr>
<tr>
<td>8:00 am - 9:00 am</td>
<td>IJBRC Intl Joints &amp; Bearings Research</td>
<td>GINGERSNAP</td>
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<tr>
<td>8:00 am - 9:30 am</td>
<td>230 Soil Cement</td>
<td>YORK</td>
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<tr>
<td>8:00 am - 10:00 am</td>
<td>211-C Proportioning - No Slump</td>
<td>WINDSOR EAST</td>
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<tr>
<td>8:00 am - 11:00 am</td>
<td>201 Durability</td>
<td>GRAND CENTRE</td>
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<tr>
<td>8:00 am - 12:00 pm</td>
<td>EAC Educational Activities M2</td>
<td>KENORA</td>
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</tbody>
</table>
Daily Program
All schedule and location changes will be posted daily in SHERATON HALL.
✓ = Separate fee required  ★ = Guest-only event  TG = Task Group

Tuesday, October 23, 2012 (cont.)

8:00 am - 12:30 pm
318-B  Reinforcement & Development M2 GOLD RUSH
318-D  Flexure & Axial Loads SPINDRIFT
318-E  Shear & Torsion M2 KENT
318-G  Prestressed Precast EXECUTIVE

8:00 am - 5:00 pm
ACI Bookstore SHERATON HALL
Exhibits SHERATON HALL

8:30 am - 10:00 am
C620  Laboratory Tech Cert CONFERENCE C
526   Autoclaved Aerated Concrete ICE PALACE
544-B  FRC - Education OSGOODE EAST

8:30 am - 10:30 am
560  Design & Constr ICFs CONFERENCE F

8:30 am - 10:30 am - Sessions
Applications of Acoustic Emission for Reinforced Concrete, Part 1 of 2 DOMINION SOUTH
Contractors' Day Session—Concrete's Contribution to Infrastructure, Part 1 of 3 CIVIC NORTH
Means and Methods of Evaluating Reinforced Concrete Structures DOMINION NORTH
The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 1 of 3 CIVIC SOUTH

8:30 am - 11:30 am
117  Tolerances WENTWORTH
306  Cold Weather ELGIN
350-G&K  Env Str - Tightness Testing/Haz Mat SPRING SONG
506  Shotcreting GRAND EAST
548  Polymers WINDSOR WEST

8:30 am - 12:30 pm
357  Offshore & Marine CLUB BOARDROOM
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.
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Tuesday, October 23, 2012 (cont.)

8:30 am - 3:30 pm
350-F   Env Str - Seismic       CONFERENCE D

9:00 am - 10:00 am
325-A   Pavements - Design      CARLETON

9:00 am - 10:30 am
332-B   Conc Mtrls and Plcmnt   GINGERSNAP

9:00 am - 11:00 am
515     Protective Systems      HURON

9:00 am - 12:00 pm
IC       International Advisory Committee   PINNACLE

9:00 am - 5:00 pm
Exhibitor Demonstrations OSGOODE WEST

9:30 am - 11:00 am
130-E   Design/Specifications/Codes/Regulations YORK

9:30 am - 2:00 pm
✓A.   DEPART MAIN LOBBY

10:00 am - 11:30 am
C630    Construction Inspector Cert PEEL

10:00 am - 12:00 pm
211-A   Proportioning - Editorial CARLETON

10:00 am - 1:00 pm
523     Cellular Concrete       ICE PALACE

10:00 am - 4:00 pm
★Guest Lounge                  CHURCHILL

10:30 am - 12:00 pm
325-C   Pavements - Prestressed and Precast CONFERENCE E
332-D&E  Residential Concrete D & E WINDSOR EAST
332-F   Residential Concrete - Slabs CONFERENCE B
544-F   FRC - Durability       OSGOODE EAST

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Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.
✓ = Separate fee required  ★ = Guest-only event  TG = Task Group

Tuesday, October 23, 2012 (cont.)

10:30 am - 12:30 pm
236-TG4  Modeling and Simulation Methods  GINGERSNAP

11:00 am - 12:30 pm
371  Elevated Tanks with Concrete Pedestals  YORK

11:00 am - 1:00 pm
CRC  Concrete Research Council  SIMCOE/PUFFERIN
130  Sustainability M2  GRAND WEST
327  RCC Pavements  CONFERENCE F

11:00 am - 1:00 pm - Sessions
Applications of Acoustic Emission for Reinforced Concrete, Part 2 of 2  DOMINION SOUTH
Machine Foundations, Part 1 of 2  CIVIC NORTH
UHPC—Experience and Developments, Part 2 of 2  CIVIC SOUTH

11:30 am - 12:30 pm
236-TG2  Sustainability Engineered by Material Science  GRAND EAST

11:30 am - 1:00 pm
E707  Specification Education  PEEL
211-E  Proportioning - Evaluation  SPRING SONG

11:30 am - 1:30 pm
✓Contractors' Day Lunch  CITY HALL

11:30 am - 5:00 pm
350-A  Env Str - General & Concrete  WINDSOR WEST

12:00 pm - 3:30 pm
Afternoon Soda Break  SHERATON HALL

12:30 pm - 2:00 pm
C680  Adhesive Anchor Installer - Joint CRSI  GINGERSNAP

1:00 pm - 2:00 pm
223-C  Shrinkage Compensating - Constr  SPINDRIFT
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.
✓ = Separate fee required ★ = Guest-only event TG = Task Group

Tuesday, October 23, 2012 (cont.)

1:00 pm - 3:00 pm
201-C Durability - Condition Report KENORA
211-F Proportioning - Submittal SPRING SONG
211-I Assessing Aggregate Gradation YORK
236-D Material Science - Nanotechnology of Concrete M2 PEEL
325-D Proportioning for Pavements CARLETON

1:00 pm - 4:30 pm
✓ Gardiner Museum & Small Galleries of Yorkville DEPART MAIN LOBBY

1:00 pm - 5:00 pm
563 Specs for Repair of Struct Conc in Bldgs ICE PALACE

1:30 pm - 3:00 pm
120 History CONFERENCE F
544-C FRC - Testing OSGOODE EAST

1:30 pm - 3:30 pm - Sessions
Analysis and Design Issues in Liquid-Containing Structures, Part 2 of 3 DOMINION NORTH

Contractors’ Day Session—Forming Our Future: Innovations and Advancements in Concrete Forming, Part 2 of 3 CIVIC NORTH

Open Paper Session, Part 1 of 2 DOMINION SOUTH

The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 2 of 3 CIVIC SOUTH

1:30 pm - 5:00 pm
332 Residential Concrete GRAND WEST
349 Nuclear Structures GRAND EAST
**Daily Program**

All schedule and location changes will be posted daily in SHERATON HALL.

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

Tuesday, October 23, 2012 (cont.)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>1:30 pm - 6:00 pm</td>
<td>318-A General Concrete Constr</td>
<td>ELGIN</td>
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<td></td>
<td>318-C Serviceability/Safety</td>
<td>EXECUTIVE</td>
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<td>318-H Seismic Provisions</td>
<td>KENT</td>
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<td>318-R Code Reorganization</td>
<td>GOLD RUSH</td>
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<td>2:00 pm - 3:30 pm</td>
<td>118 Computers</td>
<td>GINGERSNAP</td>
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<tr>
<td>2:00 pm - 4:00 pm</td>
<td>130-D Rating Systems/Sustainability Tools</td>
<td>HURON</td>
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<td>234 Silica Fume</td>
<td>CLUB BOARDROOM</td>
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<tr>
<td>2:00 pm - 5:00 pm</td>
<td>CPC Certification Programs</td>
<td>CONFERENCE G</td>
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<td>222 Corrosion</td>
<td>WENTWORTH</td>
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<td>223 Shrinkage Compensating</td>
<td>SPINDRIFT</td>
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<td>229 Controlled Low Strength</td>
<td>CONFERENCE B</td>
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<td>233 Slag Cement</td>
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<td>235 Electronic Data Exchange</td>
<td>WINDSOR EAST</td>
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<td>3:00 pm - 4:00 pm</td>
<td>236-TG1 Advanced Analysis Techniques for Concrete</td>
<td>PEEL</td>
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<td>3:00 pm - 5:00 pm</td>
<td>CC Convention Committee M2</td>
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<td>131 BIM</td>
<td>CONFERENCE F</td>
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<td>211-N Proportioning with Ground Limestone and Material Fillers</td>
<td>YORK</td>
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<td>372 Tanks Wrapped Wire/Strand</td>
<td>KENORA</td>
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<td>3:00 pm - 5:30 pm</td>
<td>544 Fiber-Reinforced Concrete</td>
<td>OSGOODE EAST</td>
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<td>3:30 pm - 5:00 pm</td>
<td>363-A High-Strength Lightweight Concrete</td>
<td>GINGERSNAP</td>
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<td>3:30 pm - 5:30 pm</td>
<td>325 Pavements</td>
<td>SIMCOE/DUFFERIN</td>
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<td>4:00 pm - 5:30 pm</td>
<td>308/213 Guide on Internal Curing</td>
<td>PEEL</td>
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</table>
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.

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Tuesday, October 23, 2012 (cont.)

4:00 pm - 5:30 pm - Sessions
Contractors' Day Session—
Forming Our Future: Innovations
and Advancements in Concrete
Forming, Part 3 of 3

4:00 pm - 6:00 pm
350-L  Env Str - Specification
CARLETON

4:00 pm - 6:00 pm - Sessions
Analysis and Design Issues in
Liquid-Containing Structures,
Part 3 of 3

Joint KCI-ACI Session: International-
Level Research, Practice, and
Partnerships, Part 1 of 3—Historical
and Innovative Perspectives
DOMINION NORTH

Machine Foundations, Part 2 of 2
CIVIC NORTH

Open Paper Session, Part 2 of 2
DOMINION SOUTH

The Economics, Performance, and
Sustainability of Internally Cured
Concrete, Part 3 of 3
CIVIC SOUTH

5:00 pm - 6:00 pm
349-TG  ACI 349 and ACI 359 Joint Committee
Task Group
GRAND EAST

359-TG  ACI 349 and ACI 359 Joint Committee
Task Group
GRAND EAST

5:30 pm - 6:30 pm
Faculty Network Reception
CHURCHILL

6:30 pm - 8:30 pm
100 Mile Concrete Mixer at the
Royal Ontario Museum
ROYAL ONTARIO MUSEUM
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.

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Wednesday, October 24, 2012

7:00 am - 9:00 am
SYPAC  Student & Young Professional Activities Committee  KENORA

7:00 am - 10:00 am
TCSC  TAC Construction Standards Committee  CONFERENCE B
★ Guest Hospitality  CITY HALL
Coffee Break  SHERATON HALL

7:00 am - 12:00 pm
Speaker Ready Room  OXFORD

8:00 am - 9:30 am
552  Cementitious Grouting  CARLETON

8:00 am - 12:00 pm
ACI Bookstore  SHERATON HALL
ACI Registration  SHERATON HALL

8:00 am - 5:00 pm
350  Environmental Structures  GRAND EAST

8:30 am - 10:00 am
C601-C  Masonry Testing Technician  KENT

8:30 am - 10:30 am
303  Architectural CIP  CONFERENCE C

8:30 am - 10:30 am - Sessions

Joint KCI-ACI Session: International-Level Research, Practice, and Partnerships, Part 2 of 3—
Hi-Performance Technologies  DOMINION NORTH

Natural Pozzolans—Renaissance of a Proven Technology, Part 1 of 2  DOMINION SOUTH

Sustainability of Concrete Pavements  CIVIC SOUTH

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Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.
✓ = Separate fee required  ★ = Guest-only event  TG = Task Group

Wednesday, October 24, 2012 (cont.)

8:30 am - 11:30 am
211    Proportioning                SIMCOE/DUFFERIN
330-TG1 Parking Lots & Site Paving TG        HURON
363    High Strength               CONFERENCE G

9:00 am - 12:00 pm
ACIFdn  ACI Foundation            KENORA

9:00 am - 2:00 pm
✓ Tour of Old Toronto          DEPART MAIN LOBBY

9:00 am - 6:00 pm
318    Building Code             GRAND CENTRE

10:00 am - 12:30 pm
C601-B  Concrete Quality Technical Mgr  CONFERENCE D

10:00 am - 4:00 pm
★ Guest Lounge              CHURCHILL

10:30 am - 12:30 pm
329    Perf Ready Mixed          CONFERENCE C

10:30 am - 1:00 pm
308-A  Curing - Guide            CONFERENCE F

11:00 am - 1:00 pm - Sessions
Contrasting Approaches to Blast-Resistant Design for Differing Contexts  CIVIC SOUTH

Fiber-Reinforced Concrete for Sustainable Structures  CIVIC NORTH

Joint KCI-ACI Session: International-Level Research, Practice, and Partnerships, Part 3 of 3—Mega-structures  DOMINION NORTH

Natural Pozzolans—Renaissance of a Proven Technology, Part 2 of 2  DOMINION SOUTH
Daily Program

All schedule and location changes will be posted daily in SHERATON HALL.
✓ = Separate fee required   ★ = Guest-only event   TG = Task Group

Wednesday, October 24, 2012 (cont.)

1:00 pm - 4:00 pm
330 Parking Lots & Site Paving   HURON

2:00 pm - 5:00 pm
308 Curing   CONFERENCE F

Thursday, October 25, 2012

8:00 am - 5:00 pm
✓ ACI Troubleshooting Concrete Construction   CIVIC NORTH

10:00 am - 5:00 pm
BOD Board of Direction   CIVIC SOUTH
<table>
<thead>
<tr>
<th>Code</th>
<th>Committee</th>
<th>Day</th>
<th>Time</th>
<th>Room Name</th>
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<tbody>
<tr>
<td>ACIFdn</td>
<td>ACI Foundation</td>
<td>Wed</td>
<td>9:00 am - 12:00 pm</td>
<td>KENORA</td>
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<tr>
<td>BOD</td>
<td>Board of Direction</td>
<td>Thu</td>
<td>10:00 am - 5:00 pm</td>
<td>CIVIC SOUTH</td>
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<tr>
<td>C601-B</td>
<td>Concrete Quality Technical Mgr</td>
<td>Wed</td>
<td>10:00 am - 12:30 pm</td>
<td>CONFERENCE D</td>
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<tr>
<td>C601-C</td>
<td>Masonry Testing Technician</td>
<td>Wed</td>
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<td>KENT</td>
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<tr>
<td>C610</td>
<td>Field Technician</td>
<td>Mon</td>
<td>8:30 am - 11:00 am</td>
<td>CONFERENCE F</td>
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<td>C620</td>
<td>Laboratory Tech Cert</td>
<td>Tue</td>
<td>8:30 am - 10:00 am</td>
<td>CONFERENCE C</td>
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<tr>
<td>C630</td>
<td>Construction Inspector Cert</td>
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<td>10:00 am - 11:30 am</td>
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<tr>
<td>C631</td>
<td>Conc Transportation Cert</td>
<td>Mon</td>
<td>1:00 pm - 2:30 pm</td>
<td>HURON</td>
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<td>C640</td>
<td>Craftsman Cert</td>
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<td>11:00 am - 1:00 pm</td>
<td>CONFERENCE D</td>
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<tr>
<td>C650</td>
<td>Tilt-Up Constructor Cert</td>
<td>Sun</td>
<td>7:30 am - 9:00 am</td>
<td>COSMOPOLITAN</td>
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<td>C660</td>
<td>Shotcrete Nozzleman Cert</td>
<td>Mon</td>
<td>1:00 pm - 3:00 pm</td>
<td>KENORA</td>
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<td>C680</td>
<td>Adhesive Anchor Installer - Joint CRSI</td>
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<td>CAC</td>
<td>Chapter Activities</td>
<td>Mon</td>
<td>2:00 pm - 5:00 pm</td>
<td>ICE PALACE</td>
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<td>CC</td>
<td>Convention Committee M2</td>
<td>Tue</td>
<td>3:00 pm - 5:00 pm</td>
<td>PINNACLE</td>
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<td>CLC</td>
<td>Construction Liaison</td>
<td>Sun</td>
<td>8:00 am - 10:30 am</td>
<td>KENT</td>
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<td>CPC</td>
<td>Certification Programs</td>
<td>Tue</td>
<td>2:00 pm - 5:00 pm</td>
<td>CONFERENCE G</td>
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<tr>
<td>CRC</td>
<td>Concrete Research Council</td>
<td>Tue</td>
<td>11:00 am - 1:00 pm</td>
<td>SIMCOE/ DUFFERIN</td>
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<tr>
<td>E701</td>
<td>Materials for Concrete Construction</td>
<td>Sun</td>
<td>10:00 am - 11:30 am</td>
<td>DUFFERIN</td>
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<tr>
<td>E702</td>
<td>Designing Concrete Structures</td>
<td>Mon</td>
<td>5:00 pm - 6:30 pm</td>
<td>GINGERSNAP</td>
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<tr>
<td>E703</td>
<td>Concrete Construction Practices</td>
<td>Mon</td>
<td>5:00 pm - 7:00 pm</td>
<td>WINDSOR EAST</td>
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<tr>
<td>E706</td>
<td>Repair Application Procedures</td>
<td>Sun</td>
<td>8:00 am - 10:00 am</td>
<td>DUFFERIN</td>
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<td>Time</td>
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<td>Specification Education</td>
<td>Tue</td>
<td>11:30 am - 1:00 pm</td>
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<td>1:00 pm - 5:00 pm</td>
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<td>Educational Activities M2</td>
<td>Tue</td>
<td>8:00 am - 12:00 pm</td>
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<tr>
<td>HTC</td>
<td>Hot Topic</td>
<td>Sun</td>
<td>11:30 am - 1:00 pm</td>
<td>SPRING SONG</td>
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<td>IC</td>
<td>International Advisory Committee</td>
<td>Tue</td>
<td>9:00 am - 12:00 pm</td>
<td>PINNACLE</td>
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<td>IC-Conf</td>
<td>International Conferences</td>
<td>Mon</td>
<td>7:15 am - 8:30 am</td>
<td>GINGERSNAP</td>
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<td>IC-Part</td>
<td>International Partnerships &amp; Publications</td>
<td>Sun</td>
<td>10:00 am - 12:00 pm</td>
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<td>IJBC</td>
<td>Intl Joints &amp; Bearings Research</td>
<td>Tue</td>
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<td>Intl-Cert</td>
<td>International Certification</td>
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<td>3:30 pm - 5:00 pm</td>
<td>YORK</td>
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<tr>
<td>ISO/TC 71</td>
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<td>Mon</td>
<td>1:00 pm - 2:30 pm</td>
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<td>MEMC</td>
<td>Membership</td>
<td>Sun</td>
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<td>Mon</td>
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<td>1:30 pm - 3:30 pm</td>
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<td>7:00 am - 9:00 am</td>
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<td>TAC</td>
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<td>6:30 pm - 9:00 pm</td>
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<td>Technical Activities M2</td>
<td>Sat</td>
<td>7:00 am - 6:00 pm</td>
<td>CONFERENCE G</td>
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## Numerical Committee Meeting Listing

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<th>Code</th>
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<th>Time</th>
<th>Room Name</th>
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<td>Sun</td>
<td>7:00 am - 2:00 pm</td>
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<tr>
<td>TACRG1</td>
<td>TAC Review Group 1</td>
<td>Sun</td>
<td>8:00 am - 11:00 am</td>
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<td>TAC Review Group 2</td>
<td>Sun</td>
<td>8:00 am - 11:00 am</td>
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<td>TACRG3</td>
<td>TAC Review Group 3</td>
<td>Sun</td>
<td>8:00 am - 11:00 am</td>
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<td>TAC Construction Standards Committee</td>
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<td>7:00 am - 10:00 am</td>
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<td>TRRC</td>
<td>TAC Repair &amp; Rehab</td>
<td>Tue</td>
<td>7:00 am - 8:30 am</td>
<td>CONFERENCE F</td>
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<td>TTAG</td>
<td>Technology Transfer Advisory Group</td>
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<td>117</td>
<td>Tolerances</td>
<td>Tue</td>
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<tr>
<td>118</td>
<td>Computers</td>
<td>Tue</td>
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<td>120</td>
<td>History</td>
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<td>121</td>
<td>Quality Assurance</td>
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<td>Research</td>
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<td>130</td>
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<td>Materials</td>
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<td>130-B</td>
<td>Production/ Transport/ Construction</td>
<td>Mon</td>
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<tr>
<td>130-D</td>
<td>Rating Systems/ Sustainability Tools</td>
<td>Tue</td>
<td>2:00 pm - 4:00 pm</td>
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<td>130-E</td>
<td>Design/ Specifications/ Codes/Regulations</td>
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<td>9:30 am - 11:00 am</td>
<td>YORK</td>
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<td>Social Issues</td>
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<td>130-G</td>
<td>Education/ Certification</td>
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<td>7:30 am - 9:00 am</td>
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<td>Committee</td>
<td>Day</td>
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<td>132</td>
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<td>207</td>
<td>Mass Concrete</td>
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<td>209</td>
<td>Creep &amp; Shrinkage</td>
<td>Mon</td>
<td>8:30 am - 11:30 am</td>
<td>GOLD RUSH</td>
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<td>211</td>
<td>Proportioning</td>
<td>Wed</td>
<td>8:30 am - 11:30 am</td>
<td>SIMCOE/DUFFERN</td>
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<td>Assessing Aggregate Gradation</td>
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<td>Proportioning with Ground Limestone and Material Fillers</td>
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<td>Guide for Selecting Proportions for Pumpable Concrete</td>
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<td>212</td>
<td>Chemical Admixtures</td>
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<td>Lightweight</td>
<td>Mon</td>
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<td>213-TG1</td>
<td>Lightweight - Editorial TG</td>
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<td>11:30 am - 12:30 pm</td>
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<td>214</td>
<td>Strength Tests M1</td>
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<td>Fatigue</td>
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<td>Fire Resistance</td>
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<td>Corrosion</td>
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<td>223</td>
<td>Shrinkage Compensating</td>
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<td>SPINDRIFT</td>
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<td>223-C</td>
<td>Shrinkage Compensating - Constr</td>
<td>Tue</td>
<td>1:00 pm - 2:00 pm</td>
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<td>Sun</td>
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<td>Hydraulic Cements</td>
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<td>228</td>
<td>Nondestructive Testing</td>
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<td>9:30 am - 12:30 pm</td>
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<td>228-A</td>
<td>NDT Technician Certification</td>
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<td>Controlled Low Strength</td>
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<td>232</td>
<td>Fly Ash &amp; Natural Pozzolans</td>
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<td>1:00 pm - 4:00 pm</td>
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<td>232-A</td>
<td>Fly Ash - Use of Nat Pozzolans</td>
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<td>Silica Fume</td>
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<td>CLUB BOARDROOM</td>
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<td>Electronic Data Exchange</td>
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<td>Material Science</td>
<td>Mon</td>
<td>4:30 pm - 5:30 pm</td>
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<td>236-D</td>
<td>Material Science - Nanotechnology of Concrete M1</td>
<td>Sun</td>
<td>3:30 pm - 5:00 pm</td>
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<td>236-D</td>
<td>Material Science - Nanotechnology of Concrete M2</td>
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<td>Committee</td>
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<td>Advanced Analysis Techniques for Concrete</td>
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<td>Sustainability Engineered by Material Science</td>
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<td>Modeling and Simulation Methods</td>
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<td>Self-Consolidating Concrete Task Group</td>
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<td>238</td>
<td>Workability of Fresh Concrete</td>
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<td>Spec - Gen Req., Definitions, &amp; Tolerances</td>
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<td>Spec - Formwork &amp; Reinforcement</td>
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<td>Spec - Precast Concrete Panels</td>
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<td>301-G</td>
<td>Spec - Shrink Comp Conc &amp; Ind Floor Slabs</td>
<td>Sun</td>
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<td>Spec - Tilt-Up Constr &amp; Arch Conc</td>
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<td>Spec - Steering Committee</td>
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<td>Measuring/Mix/Trans/Placing</td>
<td>Mon</td>
<td>11:30 am - 1:00 pm</td>
<td>OSGOODE EAST</td>
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<td>Cold Weather</td>
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<td>307</td>
<td>Chimneys</td>
<td>Mon</td>
<td>2:00 pm - 5:00 pm</td>
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<td>Wed</td>
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<td>Guide on Internal Curing</td>
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<td>Curing - Guide</td>
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<td>Simplified Design Buildings</td>
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<td>Detailing - Constructibility</td>
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<td>8:30 am - 11:30 am</td>
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<td>General Concrete Constr</td>
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<td>10:00 am - 1:00 pm</td>
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<td>Reinforcement &amp; Development M2</td>
<td>Tue</td>
<td>8:00 am - 12:30 pm</td>
<td>GOLD RUSH</td>
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<td>318-C</td>
<td>Serviceability/Safety</td>
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<td>1:30 pm - 6:00 pm</td>
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<td>Committee</td>
<td>Day</td>
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<td>Flexure &amp; Axial Loads</td>
<td>Tue</td>
<td>8:00 am - 12:30 pm</td>
<td>SPINDrift</td>
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<td>Shear &amp; Torsion M1</td>
<td>Mon</td>
<td>10:00 am - 1:00 pm</td>
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<td>8:00 am - 12:30 pm</td>
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<td>318 Electronic Aids</td>
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<td>Prestressed Precast</td>
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<tr>
<td>318-TGF</td>
<td>Task Group Foundation</td>
<td>Mon</td>
<td>5:00 pm - 6:30 pm</td>
<td>WINDSOR WEST</td>
</tr>
<tr>
<td>325</td>
<td>Pavements</td>
<td>Tue</td>
<td>3:30 pm - 5:30 pm</td>
<td>SIMCOE/DUFFERIN</td>
</tr>
<tr>
<td>325-A</td>
<td>Pavements - Design</td>
<td>Tue</td>
<td>9:00 am - 10:00 am</td>
<td>CARLETON</td>
</tr>
<tr>
<td>325-C</td>
<td>Pavements - Prestressed and Precast</td>
<td>Tue</td>
<td>10:30 am - 12:00 pm</td>
<td>CONFERENCE E</td>
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<tr>
<td>325-D</td>
<td>Proportioning for Pavements</td>
<td>Tue</td>
<td>1:00 pm - 3:00 pm</td>
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<td>327</td>
<td>RCC Pavements</td>
<td>Tue</td>
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<td>CONFERENCE F</td>
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<td>329</td>
<td>Perf Ready Mixed</td>
<td>Wed</td>
<td>10:30 am - 12:30 pm</td>
<td>CONFERENCE C</td>
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<td>330</td>
<td>Parking Lots &amp; Site Paving</td>
<td>Wed</td>
<td>1:00 pm - 4:00 pm</td>
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<tr>
<td>330-TG1</td>
<td>Parking Lots &amp; Site Paving TG</td>
<td>Wed</td>
<td>8:30 am - 11:30 am</td>
<td>HURON</td>
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<tr>
<td>332</td>
<td>Residential Concrete</td>
<td>Tue</td>
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<td>GRAND WEST</td>
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<td>332-B</td>
<td>Conc Mtrls and Plcmnt</td>
<td>Tue</td>
<td>9:00 am - 10:30 am</td>
<td>GINGERSNAP</td>
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<td>332-F</td>
<td>Residential Concrete - Slabs</td>
<td>Tue</td>
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<td>CONFERENCE B</td>
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<tr>
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<td>Day</td>
<td>Time</td>
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<td>334</td>
<td>Shells</td>
<td>Mon</td>
<td>5:00 pm - 6:00 pm</td>
<td>SPRING SONG</td>
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<tr>
<td>335</td>
<td>Composite Hybrid</td>
<td>Sun</td>
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<td>WINDSOR WEST</td>
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<tr>
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<td>Footings</td>
<td>Sun</td>
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<td>341</td>
<td>Earthquake-Resistant Bridges</td>
<td>Sun</td>
<td>3:00 pm - 5:00 pm</td>
<td>OSGOODE EAST</td>
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<td>341-A</td>
<td>Equake Res Brdgs - Columns</td>
<td>Sun</td>
<td>11:00 am - 12:30 pm</td>
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<td>341-B</td>
<td>Equake Res Brdgs - Pier Walls</td>
<td>Sun</td>
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<td>341-C</td>
<td>Equake Res Brdgs - Retrofit</td>
<td>Sun</td>
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<td>341-D</td>
<td>Perf Based Seismic Design</td>
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<td>342</td>
<td>Bridge Evaluation</td>
<td>Sun</td>
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<td>Bridge Design</td>
<td>Mon</td>
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<td>Design</td>
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<td>343-B</td>
<td>Bridge Deck Design</td>
<td>Mon</td>
<td>8:15 am - 9:00 am</td>
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<td>Loads</td>
<td>Mon</td>
<td>12:00 pm - 1:00 pm</td>
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<td>345</td>
<td>Bridge Construction</td>
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<td>346</td>
<td>CIP Pipe</td>
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<td>347</td>
<td>Formwork M1</td>
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<td>9:00 am - 6:00 pm</td>
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<td>347</td>
<td>Formwork M2</td>
<td>Sun</td>
<td>8:30 am - 12:30 pm</td>
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<td>Formwork - Specification</td>
<td>Sat</td>
<td>7:00 pm - 9:00 pm</td>
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<td>348</td>
<td>Safety</td>
<td>Mon</td>
<td>2:00 pm - 3:30 pm</td>
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<td>349</td>
<td>Nuclear Structures</td>
<td>Tue</td>
<td>1:30 pm - 5:00 pm</td>
<td>GRAND EAST</td>
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<tr>
<td>349-A&amp;B</td>
<td>Nuclear Structures - Design &amp; Materials</td>
<td>Mon</td>
<td>12:30 pm - 4:30 pm</td>
<td>CITY HALL</td>
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<td>349-C</td>
<td>Nuclear Str - Anchorage</td>
<td>Mon</td>
<td>8:15 am - 11:00 am</td>
<td>CONFERENCE C</td>
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<td>Day</td>
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<td>349-TG</td>
<td>ACI 349 and ACI 359 Joint Committee Task Group</td>
<td>Tue</td>
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<td>350</td>
<td>Environmental Structures</td>
<td>Wed</td>
<td>8:00 am - 5:00 pm</td>
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<tr>
<td>350-A</td>
<td>Env Str - General &amp; Concrete</td>
<td>Tue</td>
<td>11:30 am - 5:00 pm</td>
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<td>350-B</td>
<td>Env Str - Durability</td>
<td>Mon</td>
<td>8:30 am - 1:00 pm</td>
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<td>Env Str - Reinf &amp; Devel</td>
<td>Sun</td>
<td>8:30 am - 11:30 am</td>
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<td>350-D</td>
<td>Env Str - Structural</td>
<td>Mon</td>
<td>8:30 am - 6:30 pm</td>
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<td>Env Str - Precast/ Prestressed</td>
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<td>1:00 pm - 5:00 pm</td>
<td>CONFERENCE B</td>
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<td>350-F</td>
<td>Env Str - Seismic</td>
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<td>350-G&amp;K</td>
<td>Env Str - Tightness Testing/Haz Mat</td>
<td>Tue</td>
<td>8:30 am - 11:30 am</td>
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<td>350-H</td>
<td>Env Str - Editorial</td>
<td>Mon</td>
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<td>COSMOPOLITAN</td>
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<td>Env Str - Steering Comm</td>
<td>Sun</td>
<td>11:30 am - 1:00 pm</td>
<td>DUFFERIN</td>
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<td>351</td>
<td>Equip Foundations</td>
<td>Mon</td>
<td>2:30 pm - 4:30 pm</td>
<td>NORFOLK</td>
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<td>351-C</td>
<td>Equip Fdns - Dynamic Foundations</td>
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<td>1:00 pm - 3:00 pm</td>
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<td>351-D</td>
<td>Design Provisions for Heavy Industrial Equipment and Machinery Concrete</td>
<td>Mon</td>
<td>10:00 am - 12:00 pm</td>
<td>CLUB BOARDROOM</td>
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<td>351-TG1</td>
<td>Spec for Cementitious Grouting between Foundations &amp; Equipment Bases</td>
<td>Sun</td>
<td>11:00 am - 1:00 pm</td>
<td>CONFERENCE E</td>
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<tr>
<td>351-TG2</td>
<td>Specification for Epoxy Grouting between Foundations &amp; Equipment Bases</td>
<td>Mon</td>
<td>12:00 pm - 2:00 pm</td>
<td>CLUB BOARDROOM</td>
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<tr>
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<td>Committee</td>
<td>Day</td>
<td>Time</td>
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<tr>
<td>352</td>
<td>Joints</td>
<td>Sun</td>
<td>2:00 pm - 5:00 pm</td>
<td>PEEL</td>
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<td>355</td>
<td>Anchorage</td>
<td>Sun</td>
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<td>ESSEX</td>
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<td>357</td>
<td>Offshore &amp; Marine</td>
<td>Tue</td>
<td>8:30 am - 12:30 pm</td>
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<td>359-TG</td>
<td>ACI 349 and ACI 359 Joint Committee Task Group</td>
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<tr>
<td>360</td>
<td>Slabs on Ground</td>
<td>Mon</td>
<td>2:00 pm - 6:30 pm</td>
<td>GRAND EAST</td>
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<td>362</td>
<td>Parking Structures</td>
<td>Mon</td>
<td>1:00 pm - 5:00 pm</td>
<td>SPINDRIFT</td>
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<td>362-A</td>
<td>Parking Str - Standard</td>
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<td>12:00 pm - 3:00 pm</td>
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<td>363</td>
<td>High Strength</td>
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<td>363-A</td>
<td>High-Strength Lightweight Concrete</td>
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<td>Rehabilitation</td>
<td>Mon</td>
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<td>Rehabilitation Guide</td>
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<td>365</td>
<td>Service Life</td>
<td>Mon</td>
<td>9:00 am - 11:00 am</td>
<td>ICE PALACE</td>
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<td>369</td>
<td>Seismic Rehab M1</td>
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<td>1:00 pm - 2:30 pm</td>
<td>ICE PALACE</td>
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<td>369</td>
<td>Seismic Rehab M2</td>
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<td>370</td>
<td>Blast and Impact Load Effects</td>
<td>Mon</td>
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<td>371</td>
<td>Elevated Tanks with Concrete Pedestals</td>
<td>Tue</td>
<td>11:00 am - 12:30 pm</td>
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<tr>
<td>372</td>
<td>Tanks Wrapped Wire/Strand</td>
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<td>3:00 pm - 5:00 pm</td>
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<tr>
<td>374</td>
<td>Seismic Design</td>
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<td>374-TG2</td>
<td>Protocol For Testing RC - Structural Elements</td>
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<td>375</td>
<td>Design for Wind Loads</td>
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<td>376</td>
<td>RLG Containment Structures</td>
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<td>Steering Subcommittee</td>
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<td>376-A</td>
<td>Code, Education &amp; Publication Subcommittee</td>
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<td>10:00 am - 12:00 pm</td>
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<td>Design &amp; Construction Subcommittee</td>
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<td>Performance-Based Structural Integrity &amp; Resilience of Concrete Structures</td>
<td>Mon</td>
<td>10:00 am - 12:30 pm</td>
<td>NORFOLK</td>
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<td>408</td>
<td>Development and Splicing</td>
<td>Sun</td>
<td>8:30 am - 11:30 am</td>
<td>ICE PALACE</td>
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<td>Mech Splices</td>
<td>Sun</td>
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<td>Reinf Slabs</td>
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<td>Mon</td>
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<td>423/445</td>
<td>Adhoc Grp on Shear in Prestress Conc</td>
<td>Sun</td>
<td>3:30 pm - 5:30 pm</td>
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<td>423-E</td>
<td>Prestress - Losses</td>
<td>Sun</td>
<td>1:00 pm - 4:00 pm</td>
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<td>Mon</td>
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<td>Mon</td>
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<td>Steel Reinforcement - Wire</td>
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<td>Fiber-Reinforced Polymer</td>
<td>Tue</td>
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<td>Research Development and Applications</td>
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<td>440-E</td>
<td>FRP - Prof Education</td>
<td>Mon</td>
<td>8:30 am - 10:00 am</td>
<td>NORFOLK</td>
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<tr>
<td>Code</td>
<td>Committee</td>
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<td>Mon</td>
<td>3:00 pm - 6:00 pm</td>
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<td>440-H</td>
<td>FRP - Reinforced Concrete</td>
<td>Mon</td>
<td>1:00 pm - 3:00 pm</td>
<td>OSGOODE EAST</td>
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<tr>
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<td>FRP - Stay-in-Place Forms</td>
<td>Mon</td>
<td>10:00 am - 11:30 am</td>
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<td>440-L</td>
<td>FRP - Durability</td>
<td>Sun</td>
<td>3:00 pm - 5:00 pm</td>
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<td>FRP - Repair of Masonry Str</td>
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<td>8:30 am - 10:00 am</td>
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<td>FRP - Task Group Repair Material</td>
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<td>High-Strength Concrete</td>
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<td>Columns Multi-Spiral Reinf</td>
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<td>Shear &amp; Torsion</td>
<td>Mon</td>
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<tr>
<td>445-A</td>
<td>Shear &amp; Torsion - Strut &amp; Tie</td>
<td>Sun</td>
<td>10:30 am - 1:30 pm</td>
<td>SPINDRIFT</td>
</tr>
<tr>
<td>445-B</td>
<td>Shear &amp; Torsn - Seismic Shear</td>
<td>Sun</td>
<td>8:00 am - 10:00 am</td>
<td>WENTWORTH</td>
</tr>
<tr>
<td>445-C</td>
<td>Shear &amp; Torsn - Punching Shear</td>
<td>Sun</td>
<td>1:00 pm - 3:00 pm</td>
<td>WINDSOR EAST</td>
</tr>
<tr>
<td>445-D</td>
<td>Shear &amp; Torsn - Database</td>
<td>Sun</td>
<td>3:00 pm - 5:00 pm</td>
<td>SIMCOE</td>
</tr>
<tr>
<td>445-E</td>
<td>Shear &amp; Torsn - SOA Torsion</td>
<td>Sun</td>
<td>12:30 pm - 2:00 pm</td>
<td>CONFERENCE F</td>
</tr>
<tr>
<td>446</td>
<td>Fracture Mechanics</td>
<td>Mon</td>
<td>3:30 pm - 5:00 pm</td>
<td>GINGERSNAP</td>
</tr>
<tr>
<td>447</td>
<td>Finite Element Analysis M1</td>
<td>Mon</td>
<td>11:00 am - 1:30 pm</td>
<td>ICE PALACE</td>
</tr>
<tr>
<td>447</td>
<td>Finite Element Analysis M2</td>
<td>Mon</td>
<td>5:00 pm - 6:30 pm</td>
<td>CONFERENCE C</td>
</tr>
<tr>
<td>506</td>
<td>Shotcreting</td>
<td>Tue</td>
<td>8:30 am - 11:30 am</td>
<td>GRAND EAST</td>
</tr>
<tr>
<td>506-A</td>
<td>Shotcreting - Evaluation</td>
<td>Sun</td>
<td>9:30 am - 11:00 am</td>
<td>GOLD RUSH</td>
</tr>
<tr>
<td>Code</td>
<td>Committee</td>
<td>Day</td>
<td>Time</td>
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<tr>
<td>506-B</td>
<td>Shotcreting - Fiber-Reinforced</td>
<td>Sun</td>
<td>1:30 pm - 3:00 pm</td>
<td>SPINDRIFT</td>
</tr>
<tr>
<td>506-C</td>
<td>Shotcreting - Guide</td>
<td>Mon</td>
<td>8:30 am - 11:00 am</td>
<td>HURON</td>
</tr>
<tr>
<td>506-E</td>
<td>Shotcreting - Specifications</td>
<td>Mon</td>
<td>11:00 am - 12:30 pm</td>
<td>WINDSOR WEST</td>
</tr>
<tr>
<td>506-F</td>
<td>Shotcreting - Underground</td>
<td>Mon</td>
<td>3:00 pm - 5:00 pm</td>
<td>CARLETON</td>
</tr>
<tr>
<td>506-G</td>
<td>Qualifications for Projects</td>
<td>Sun</td>
<td>11:00 am - 12:30 pm</td>
<td>CONFERENCE B</td>
</tr>
<tr>
<td>515</td>
<td>Protective Systems</td>
<td>Tue</td>
<td>9:00 am - 11:00 am</td>
<td>HURON</td>
</tr>
<tr>
<td>522</td>
<td>Pervious Concrete</td>
<td>Tue</td>
<td>8:00 am - 11:00 am</td>
<td>SIMCOE/ DUFFERIN</td>
</tr>
<tr>
<td>523</td>
<td>Cellular Concrete</td>
<td>Tue</td>
<td>10:00 am - 1:00 pm</td>
<td>ICE PALACE</td>
</tr>
<tr>
<td>524</td>
<td>Plastering</td>
<td>Mon</td>
<td>8:30 am - 10:30 am</td>
<td>KENT</td>
</tr>
<tr>
<td>526</td>
<td>Autoclaved Aerated Concrete</td>
<td>Tue</td>
<td>8:30 am - 10:00 am</td>
<td>ICE PALACE</td>
</tr>
<tr>
<td>533</td>
<td>Precast Panels</td>
<td>Sun</td>
<td>1:00 pm - 2:30 pm</td>
<td>WINDSOR WEST</td>
</tr>
<tr>
<td>543</td>
<td>Piles</td>
<td>Mon</td>
<td>8:30 am - 11:30 am</td>
<td>CARLETON</td>
</tr>
<tr>
<td>544</td>
<td>Fiber-Reinforced Concrete</td>
<td>Tue</td>
<td>3:00 pm - 5:30 pm</td>
<td>OSGOODE EAST</td>
</tr>
<tr>
<td>544-A</td>
<td>FRC - Production &amp; Applications</td>
<td>Mon</td>
<td>11:30 am - 1:00 pm</td>
<td>HURON</td>
</tr>
<tr>
<td>544-B</td>
<td>FRC - Education</td>
<td>Tue</td>
<td>8:30 am - 10:00 am</td>
<td>OSGOODE EAST</td>
</tr>
<tr>
<td>544-C</td>
<td>FRC - Testing</td>
<td>Tue</td>
<td>1:30 pm - 3:00 pm</td>
<td>OSGOODE EAST</td>
</tr>
<tr>
<td>544-D</td>
<td>FRC - Structural Uses</td>
<td>Mon</td>
<td>3:30 pm - 6:00 pm</td>
<td>EXECUTIVE</td>
</tr>
<tr>
<td>544-E</td>
<td>FRC - Mechanical Properties</td>
<td>Mon</td>
<td>5:00 pm - 6:30 pm</td>
<td>HURON</td>
</tr>
<tr>
<td>544-F</td>
<td>FRC - Durability</td>
<td>Tue</td>
<td>10:30 am - 12:00 pm</td>
<td>OSGOODE EAST</td>
</tr>
<tr>
<td>544-SC</td>
<td>FRC - Steering Committee</td>
<td>Mon</td>
<td>8:30 am - 10:00 am</td>
<td>EXECUTIVE</td>
</tr>
<tr>
<td>546</td>
<td>Repair</td>
<td>Mon</td>
<td>8:30 am - 11:30 am</td>
<td>SIMCOE</td>
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<tr>
<td>546-B</td>
<td>Repair - Material Selection Guide</td>
<td>Sun</td>
<td>8:00 am - 9:00 am</td>
<td>ELGIN</td>
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<tr>
<td>Code</td>
<td>Committee</td>
<td>Day</td>
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<tr>
<td>546-C</td>
<td>Repair - Guide</td>
<td>Sun</td>
<td>9:00 am - 12:00 pm</td>
<td>ELGIN</td>
</tr>
<tr>
<td>548</td>
<td>Polymers</td>
<td>Tue</td>
<td>8:30 am - 11:30 am</td>
<td>WINDSOR WEST</td>
</tr>
<tr>
<td>548-A</td>
<td>Polymers - Overlays</td>
<td>Mon</td>
<td>8:15 am - 11:00 am</td>
<td>SPRING SONG</td>
</tr>
<tr>
<td>548-B</td>
<td>Polymers - Adhesives</td>
<td>Mon</td>
<td>2:30 pm - 4:30 pm</td>
<td>KENT</td>
</tr>
<tr>
<td>548-C</td>
<td>Structural Polymer Design</td>
<td>Mon</td>
<td>11:00 am - 12:30 pm</td>
<td>SPRING SONG</td>
</tr>
<tr>
<td>549</td>
<td>Thin Reinforced</td>
<td>Sun</td>
<td>11:00 am - 1:00 pm</td>
<td>GOLD RUSH</td>
</tr>
<tr>
<td>549-TG2</td>
<td>Report on Thin Reinforced Cementitious Products</td>
<td>Sun</td>
<td>10:00 am - 10:30 am</td>
<td>PEEL</td>
</tr>
<tr>
<td>550</td>
<td>Precast Structures</td>
<td>Sun</td>
<td>3:00 pm - 5:00 pm</td>
<td>SPINDRIFT</td>
</tr>
<tr>
<td>551</td>
<td>Tilt Up</td>
<td>Sun</td>
<td>9:00 am - 12:00 pm</td>
<td>HURON</td>
</tr>
<tr>
<td>552</td>
<td>Cementitious Grouting</td>
<td>Wed</td>
<td>8:00 am - 9:30 am</td>
<td>CARLETON</td>
</tr>
<tr>
<td>555</td>
<td>Recycled</td>
<td>Mon</td>
<td>5:00 pm - 6:30 pm</td>
<td>ICE PALACE</td>
</tr>
<tr>
<td>560</td>
<td>Design &amp; Constr ICFs</td>
<td>Tue</td>
<td>8:30 am - 10:30 am</td>
<td>CONFERENCE F</td>
</tr>
<tr>
<td>562</td>
<td>Eval, Repair &amp; Rehab</td>
<td>Sun</td>
<td>1:00 pm - 5:00 pm</td>
<td>PROVINCIAL</td>
</tr>
<tr>
<td>562-A</td>
<td>Eval, Repair &amp; Rehab - Life Safety</td>
<td>Sat</td>
<td>4:00 pm - 6:00 pm</td>
<td>CONFERENCE F</td>
</tr>
<tr>
<td>562-B</td>
<td>Eval, Repair &amp; Rehab - Loads</td>
<td>Sun</td>
<td>10:00 am - 12:00 pm</td>
<td>SIMCOE</td>
</tr>
<tr>
<td>562-C</td>
<td>Eval, Repair &amp; Rehab - Structural Analysis M1</td>
<td>Sat</td>
<td>4:00 pm - 6:00 pm</td>
<td>WINDSOR EAST</td>
</tr>
<tr>
<td>562-C</td>
<td>Eval, Repair &amp; Rehab - Structural Analysis M2</td>
<td>Sat</td>
<td>7:00 pm - 9:00 pm</td>
<td>WINDSOR EAST</td>
</tr>
<tr>
<td>562-D</td>
<td>Eval, Repair &amp; Rehab - Structural Repair Design M1</td>
<td>Sat</td>
<td>10:00 am - 12:00 pm</td>
<td>WINDSOR EAST</td>
</tr>
<tr>
<td>562-D</td>
<td>Eval, Repair &amp; Rehab - Structural Repair Design M2</td>
<td>Sat</td>
<td>1:00 pm - 4:00 pm</td>
<td>WINDSOR EAST</td>
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<tr>
<td>Code</td>
<td>Committee</td>
<td>Day</td>
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<tr>
<td>562-E</td>
<td>Eval, Repair &amp; Rehab - Durability Qlty Assurance</td>
<td>Sat</td>
<td>6:00 pm - 9:00 pm</td>
<td>CONFERENCE F</td>
</tr>
<tr>
<td>562-F</td>
<td>Eval, Repair &amp; Rehab - General</td>
<td>Sat</td>
<td>1:00 pm - 6:00 pm</td>
<td>WINDSOR WEST</td>
</tr>
<tr>
<td>563</td>
<td>Specs for Repair of Struct Conc in Bldgs</td>
<td>Tue</td>
<td>1:00 pm - 5:00 pm</td>
<td>ICE PALACE</td>
</tr>
<tr>
<td>564-FM</td>
<td>Evaluation, Repair and Rehabilitation of Nuclear Concrete Structures</td>
<td>Mon</td>
<td>2:00 pm - 3:30 pm</td>
<td>WENTWORTH</td>
</tr>
</tbody>
</table>
Recent natural disasters challenge each of us to re-evaluate the essence of sustainability. With news of climate change and resource depletion, the need remains for communities and buildings to protect us. How do we balance our need for safety, durability, and resilience with environmental stewardship? Attendees to the fifth annual Concrete Sustainability Forum and Panel Discussion will hear from industry experts on diverse topics ranging from structural concrete and life safety to resilience and recovering from disaster. Individual presentations will be followed by a moderated panel discussion that will challenge speakers and attendees to balance safety, durability, and resilience with environmental stewardship. A reception celebrating sustainability leaders and the fifth anniversary of the Concrete Sustainability Forum will immediately follow.

By attending this session, attendees will be able to:
1. Understand the impact of climate change and resource depletion on structures and high-performance buildings;
2. Identify opportunities to mitigate the impact of earthquake-, tsunami-, and climate-related disasters on communities and structures;
3. Understand opportunities to balance the need for safety, durability, and resilience with environmental stewardship and economics; and
4. Identify opportunities in the concrete industry for structural concrete, life safety, materials selection, concrete repair, and enhanced durability to impact resilience and sustainability.
Concrete Sustainability Forum and Panel Discussion  
(Fifth Anniversary) (cont.)  
CIVIC SOUTH

Introduction 1:00 pm  
Koji Sakai, Professor, Kagawa University, Takamatsu, Japan; and  
James K. Wight, ACI President

Sustainability in the ACI 318 Structural Concrete Building Code 1:15 pm  
Randy Poston, Principal, WDP & Associates PC, West Lake Hills, TX

Improving Concrete Sustainability by Designing and Specifying for Durability 1:40 pm  
R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada

Improving the Resilience of Critical Infrastructure 2:05 pm  
Michael Collins, Professor, University of Toronto, Toronto, ON, Canada

Break 2:30 pm

Adapting Built Civil Infrastructure in Canada to the Impacts of Climate Change: A Codes and Standards Perspective 2:45 pm  
Michael Mortimer, Project Manager, Canadian Standards Association, Mississauga, ON, Canada

Essentially, What Does Concrete Sustainability Mean? 3:10 pm  
Koji Sakai, Professor, Kagawa University, Takamatsu, Japan

Panel Discussion 3:35 pm  
Moderated by Florian Barth, President, FBA Engineers, Hayward, CA

All Speakers

Wrap-Up 4:45 pm  
Julie K. Buffenbarger, Engineering & Architectural Specialist, Lafarge, Medina, OH

The American Institute of Architects (AIA) has approved this session for 4 Learning Units. ACI is an AIA/CES Registered Provider.

The Green Building Certification has approved this session for 4 GBCI CE hours. ACI is a provider of GBCI-approved courses for continuing education.
Concrete Sustainability Forum
Fifth Anniversary Reception

ESSEX

A reception celebrating sustainability leaders will immediately follow the Fifth Anniversary Concrete Sustainability Forum and Panel Discussion. Hors d’oeuvres and soft drinks will be provided; a cash bar will be available. (Registered forum attendees only.)
Sunday, October 21, 2012

★ Guest Hospitality  CITY HALL
7:00 am - 10:00 am
A continental breakfast will be available at the Sheraton Centre Hotel to registered guests each morning (Sunday through Wednesday). Use the ticket behind your name badge to gain entry to Guest Hospitality. You must be a registered guest to attend.

★ Guest Overview  CITY HALL
8:00 am - 9:00 am
Acquaint yourself with the week ahead and get a preview of the guest program for the ACI Spring 2013 Convention in Minneapolis, MN, and the ACI Fall 2013 Convention in Phoenix, AZ.

★ Guest Lounge  CHURCHILL
10:00 am - 4:00 pm
Stop by the Guest Lounge to relax and meet other ACI guests. Guests can enjoy the Guest Lounge Sunday through Wednesday.

★ = Guest-only event
Sunday, October 21, 2012
8:00 am - 9:00 am

Convention Orientation Breakfast
Sponsored by the ACI Convention Committee

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

First-time convention attendees are invited to join William J. Lyons III, Chair of the ACI Convention Committee, for a continental breakfast and brief session to orient you to the week ahead. Attendees will have the opportunity to meet other convention attendees and learn about what an ACI convention has to offer.
Sunday, October 21, 2012
8:45 am - 5:15 pm

✓ Beauty of the Falls and Hillebrand Estates Winery
   DEPART MAIN LOBBY
   $198.00 U.S. per person

This day trip to Niagara Falls and the Niagara region from Toronto includes a wine tour and tasting at Hillebrand Estates Winery followed by a three-course lunch, which includes a glass of wine. Following your time at the winery, there will be a tour of Niagara-on-the-Lake with time allotted for browsing the various shops and galleries. Please note that the travel time to the Niagara region will take approximately 2 hours one way.

Tour tickets may be purchased up until 24 hours prior to the event, based on availability. Tours are nonrefundable. All tours depart from the Toronto Tours desk in the main lobby of the Sheraton Centre Hotel.

✓ = separate fee required
The Art of Concrete Student Competition, sponsored by the ACI Ontario Chapter, will be held for the second time during the ACI Fall 2012 Convention. The objective is to explore the artistic nature of concrete and display its many varieties of form, function, and beauty through a work of art. This competition is open to individual undergraduate or graduate students or those students on cooperative or internship assignments. Entries will be displayed in the exhibit area beginning at 10:00 am on Sunday. Convention attendees will have the opportunity to view the artwork and vote for their favorite. Voting will be open from 10:00 am on Sunday, October 21, through 10:00 am on Monday, October 22. The winners will be announced during the Student Lunch on Monday, October 22. Top three entries will receive prizes.
Sunday, October 21, 2012
10:30 am - 4:30 pm

Student Egg Protection Device
Competition
LOWER CONCOURSE FOYER
Sponsored by ACI Committee S801, Student Activities

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

There will be a brief orientation for students attending the convention before the start of the competition beginning at 10:00 am.

Come down to see this exciting student competition, where students will strive to shelter their tender eggs from ever-increasing impact loading. Students will learn about durability, fatigue, and reinforcement design. The winner of the Student Concrete Projects Competition will also present their work during a break at 1:00 pm.
Sunday, October 21, 2012
11:30 am - 1:30 pm

International Lunch
CITY HALL
$30 U.S. per person
Sponsored by the ACI International Committee

Speaker: Michel Virlogeux
Professor
École Nationale des Ponts
Paris, France

Topic: Modern Trends in Bridge Design in Europe

Internationally renowned bridge designer Professor Michel Virlogeux will provide you with a firsthand look into his unique and innovative bridge designs during this enlightening International Lunch. Throughout his 20 years with the French Administration and then as private consultant, Professor Virlogeux designed more than 100 bridges, including the record-breaking Normandy Bridge that received the FIP Outstanding Structure Award; Seyssel cable-stayed Bridge and Gustave Flaubert Bridge, both of which received the Award of the Steel Construction Industry; the prestressed concrete Avignon Viaducts for the French High Speed Train; and the celebrated cable-stayed Millau Viaduct, designed with architect Sir Norman Foster, which has also received several awards. Virlogeux’s personal awards and accomplishments include the ACI Turner Medal, Gold Medal of the Institution of Structural Engineers, Engineer of the Year by the French Engineering Association, and Honorary President of the Fédération Internationale du Béton (fib).

Preregistration is required to attend. Tickets may be purchased at the ACI Registration Desk up to 24 hours prior to the event, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.

✓ = separate fee required
The lifetime of a structure is governed by its ability to perform its intended function safely; be adaptable to new purposes as required; and have operational, maintenance, and repair costs that are less than what an owner is willing to bear. Planning for new structures requires an understanding of built structures. Presentations will share the views of owners, new construction designers, repair designers, and materials suppliers.

By attending the session, attendees will:
1. Explore case studies of applying service-life models to structures in service;
2. Understand the implications of various repair strategies on the service life of concrete structures;
3. Recognize the challenges of delivering a reliable, cost-effective concrete product to a project site; and
4. Identify repair design development strategies for management of structures in service.

Introduction
Tracy D. Marcotte, Principal, CVM Engineers, Oaks, PA

Multi-Decades of Monitoring a “New” Structure and Comparison with Current Service Life Prediction Models
Mohamad Nagi, Director, American University of Dubai, Dubai, United Arab Emirates

A Concrete Producer’s View of Durable Concrete
Laura Mammoliti, Director, Quality-ECAN, Lafarge North America, Aggregates & Concrete, Concord, ON, Canada

How Do We Use Service Life Prediction to Develop Maintenance Strategies?
Oliver K. Gepraegs, Project Engineer, Levelton Consultants Ltd., Calgary, AB, Canada
Sunday, October 21, 2012
1:00 pm - 3:00 pm

Perspectives on Service Life (cont.)

Understanding Various Repair Options for Service Life Performance
2:20 pm
Paul A. Noyce, Principal Engineer, Electro-Tech CP, Accord, NY

Stochastic Service Life Modeling of Cumulative Damage and Extreme Shocks in Concrete Bridges
2:40 pm
Zoubir Lounis, Leader of Concrete Structures Research Group, National Research Council Canada, Ottawa, ON, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Site Casting New Form: Inspiring Function to Respond

DOMINION NORTH

Sponsored by ACI Committees 551, Tilt-Up Concrete Construction, and C650, Tilt-Up Constructor Certification; and Joint ACI-ASCE Committee 550, Precast Concrete Structures

Session Moderator: James R. Baty II
Technical Director
Tilt-Up Concrete Association
Mount Vernon, IA

The site-cast method of forming, casting, and erecting precast buildings in what is more commonly known as tilt-up has matured worldwide to staggering displays of form that challenge modern designers to see function in new light. Tilt-up is evolving a new architectural style unique to its own brand of construction.

By attending this session, attendees will be able to:
1. Recognize the artistic and aesthetic potential for tilt-up through evidence of existing structures;
2. Associate tilt-up construction with mid-rise structure development supporting multiple-floor levels;
3. Compare the limitations to form and application rooted in historical evidence to the modern explorations of form, light, and space for tilt-up; and
4. Identify the unique and inherent characteristics of modern tilt-up that enable it to be a problem-solving method of construction for complex structures and programs.

Monumental Tilt-Up—Structures that Inspire 1:00 pm
J. Edward Sauter, Executive Director, Tilt-Up Concrete Association, Mount Vernon, IA

Majestic Mid-Rise Structures Fill a New City Modern 1:30 pm
Shawn Hickey, President Construction, Site Cast Construction Corporation, Ottawa, ON, Canada
Site Casting New Form: Inspiring Function to Respond (cont.)

Evolution of Form Sets Sights on the New “Box” 2:00 pm
Kimberly Waggle Kramer, Director of Graduate Studies, Kansas State University, Manhattan, KS

Dramatic Global Examples of Form Inspiring Function 2:30 pm
James R. Baty II, Technical Director, Tilt-Up Concrete Association, Mount Vernon, IA
Sunday, October 21, 2012
1:00 pm - 3:00 pm

The Art of Designing Ductile Concrete in the Past 50 Years: The Impact of the PCA Book and Mete A. Sozen, Part 1 of 2  CIVIC SOUTH
Sponsored by ACI Committee 318, Structural Concrete Building Code

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

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

These sessions aim to disseminate information related to the development and evolution of design philosophy and detail earthquake-resistant concrete buildings in the past 50 years. Given the fact that many fundamental principles of earthquake-resistant design of concrete structures were first laid out in Design of Reinforced Concrete Buildings for Earthquake Motions, a 1961 PCA book by Blume et al., emphasis will be placed on the role this book had on subsequent design practice. Also, as a key participant in these developments as a researcher and educator, as well as a champion promoter of the design principles set forth in this book, the proposed sessions also aim to highlight the role of Professor Mete A. Sozen in shaping current design practice for earthquake-resistant concrete construction.

By attending this session, attendees will be able to:
1. Understand the historic development of earthquake-resistant construction and the factors that promote or impede implementation;
2. Identify links between various reinforcement detailing and seismic performance of reinforced concrete members;
3. Explain mechanisms leading to shear-strength degradation in reinforced concrete members under inelastic deformation reversals; and
4. Value the use of simple structural models to estimate the response of structures during earthquakes.
The Art of Designing Ductile Concrete in the Past 50 Years: The Impact of the PCA Book and Mete A. Sozen, Part 1 of 2 (cont.)

CIVIC SOUTH

A Prescient Axiom: The Formative Influence of the Substitute Structure Method 1:00 pm
Terrence Peret, Senior Principal, Wiss, Janney, Elstner Associates, Inc., Emeryville, CA; and Sigmund A. Freeman, Wiss, Janney, Elstner Associates, Inc.

Reflecting on Ductile Concrete: A Perspective from Zone 0 1:25 pm
James O. Jirsa, Janet S. Cockrell Centennial Chair in Engineering, University of Texas at Austin, Austin, TX; and Sharon L. Wood, University of Texas at Austin

The Art of Ductile Design of Concrete Beam Column Connections and Structural Walls 1:50 pm
W. Gene Corley, Senior Vice President, CTLGroup, Skokie, IL

Detailing for Controlling Shear Strength Decay in RC Members: From Stirrups to Fiber Reinforcement 2:15 pm
James K. Wight, Frank E. Richart Jr. Collegiate Professor, University of Michigan, Ann Arbor, MI; and Gustavo J. Parra-Montesinos, University of Wisconsin

Impact of the Blume, Newmark, and Corning Text on the Development of a Composite Core-Wall System for Use in Earthquake-Resistant Tall Buildings 2:40 pm
Michael E. Kreger, Professor, Purdue University, West Lafayette, IN; and Selvarajah Ramesh and Mark D. Bowman, Purdue University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
The Business Case for Social Media: How Social Media Can Build Your Individual and Professional Brand in the Construction Industry

DOMINION SOUTH

Sponsored by the ACI Marketing Committee and ACI Committee S806, Young Professional Activities

Session Co-Moderators: Kimberly Kayler
President
Constructive Communication, Inc.
Dublin, OH

Mario Garza
Director of Preconstruction
Barton Marlow Company
Southfield, MI

During this session, attendees will learn about the most important benefits of using social media platforms for business. The session will focus on how businesses and professionals can use social media to build their professional brands. Specific social media campaigns, tips, and strategies will be highlighted from various professionals within the concrete industry, with focuses on Facebook, Twitter, LinkedIn, and blogs. This session will help familiarize those who are interested in social media for business, regardless of past social media experience.

An expert-panel, interactive discussion will take place at the end of the presentations, allowing attendees to ask questions.

By attending this session, attendees will be able to:
1. Demonstrate how social media applies to today’s business world and how it fits into a business’s marketing plan;
2. Explain the value of using social media from a business perspective and to build one’s own professional brand;
3. Highlight specific social media campaigns that have been and are currently being used by those in the concrete industry, including ACI; and
4. Specify various social media tips and strategies that can be implemented for businesses both immediately and long-term.
Sunday, October 21, 2012
1:00 pm - 3:00 pm

The Business Case for Social Media: How Social Media Can Build Your Individual and Professional Brand in the Construction Industry (cont.)

Danielle Harris, Marketing Assistant, American Concrete Institute, Farmington Hills, MI

Matthew Adams, Kerneos Aluminate Technologies Graduate Fellow, Oregon State University, Corvallis, OR

Matthew Offenberg, Technical Services Manager, W.R. Grace, Canton, GA
Emerging Technologies in the Concrete Industry

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

Session Co-Moderators:
- Charles S. Hanskat
  Managing Principal
  Hanskat Consulting Group
  Northbrook, IL
- David B. Stokes
  Concrete Technology Manager
  FMC Corporation
  Bessemer City, NC

The goal of the ACI Foundation’s Strategic Development Council (SDC) is industry collaboration to address the concrete industry’s technology challenges while also creating a forum for the introduction and nurturing of new technologies. This session highlights some of the current emerging industry technologies identified by SDC.

This session will present overviews of newer technologies currently or soon to be impacting the concrete industry. They are in various stages of development with various levels of implementation. The presentations are by individuals both well-versed in these technologies and directly involved in their implementation and further development.

By attending this session, attendees will be able to:
1. Recognize current emerging technologies in the concrete industry;
2. Identify the levels of development and implementation for each emerging technology;
3. Evaluate how these emerging technologies impact their business; and
4. Discover sources for securing additional details on these emerging technologies.
Emerging Technologies in the Concrete Industry (cont.)

Concrete Wind Turbine Towers—Opportunities and Road Blocks 3:30 pm
Markus Wernli, Project Manager, Berger ABAM, Seattle, WA

Durable “Green” Cement Concrete 4:00 pm
James K. Hicks, Executive Vice President of Research and Development, CeraTech, Inc., Montgomery, TX

Paving the Way for a More Sustainable Concrete Infrastructure 4:30 pm
Maria G. Juenger, Associate Professor, University of Texas at Austin, Austin, TX; and Joseph J. Biernacki, Tennessee Technological University

Prevent C Shrinkage Cracking Mitigation 5:00 pm
Claudio E. Manissero, President, Premier Construction Production Group, Huntersville, NC

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Sunday, October 21, 2012  
3:30 pm - 5:30 pm

Placement of Epoxy Grouts in an Industrial Environment  
CIVIC NORTH
Sponsored by ACI Committee 351, Foundations for Equipment and Machinery

Session Moderator: Michael A. Paipal  
Field Engineer  
Five Star Products, Inc.  
Oakdale, MN

Attendees will gain knowledge of the requirements to properly place epoxy grouts, including the key points of surface preparation, venting and forming, conditioning, mixing, and placement, including gravity flow and pump application of epoxy grouts. Potential hazards to avoid in these applications and corrective measures will also be addressed.

By attending this session, attendees will be able to:
1. Recognize examples of appropriate surface condition and degree of preparation;
2. Demonstrate correct mixing procedures and equipment;
3. Deal with coefficient factor differences between epoxy and concrete; and
4. Explain forming techniques.

Proper Preparation of Surfaces and Forming Guidelines  3:30 pm
Richard O’Malley, Product Manager, ITW Philadelphia Resins, Montgomeryville, PA

Gravity Flow Placement Techniques for Epoxy Grouts  3:55 pm
Kermit Palmer, Rotating Equipment Specialist, Five Star Products, Inc., Sugar Land, TX

Benefits of Pumping Epoxy Grout  4:20 pm
Pete Sloan, President, Sloan Grout, Bluffdale, UT

Anticipating Problems with Epoxy Grouts and Corrective Measures  4:45 pm
Charlie Rowen, President, Robert L. Rowen & Associates, Houston, TX

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Traditionally, civil engineers have been trained to design and build structures based primarily on safety and cost of construction.

Today's energy and environmental challenges, coupled with the alarming deterioration of infrastructure, require engineers to find creative solutions for building and repairing structures that are energy-efficient, environmentally benign, and economically viable over their entire life cycle. Unfortunately, civil engineers receive little training during or after college education on how to address sustainability in their design. The aim of this session is to introduce successful strategies in familiarizing students and practicing engineers with methods to incorporate sustainability in engineering design and construction.

By attending this session, attendees will be able to:
1. Recognize the concepts of life-cycle assessment;
2. Use performance-based specifications to design and build concrete with improved sustainability;
3. Understand how to engage students to apply sustainable concrete design practices; and
4. Identify ways to evaluate products that claim to be green.

Building a Student’s Critical Reasoning Skills to Evaluate Green Building Materials 3:30 pm
Jason H. Ideker, Assistant Professor, Oregon State University, Corvallis, OR

Engineering Materials for Sustainability: Teaching Civil Engineers the Basics of Green Materials Selection and Life-Cycle Assessment 3:50 pm
Farshad Rajabipour, Assistant Professor, Pennsylvania State University, University Park, PA; and Aleksandra Radlinska, Pennsylvania State University
Teaching Sustainability to Current and Future Engineers (cont.)

DOMINION SOUTH

Incorporating Staged Self-Directed Learning Strategies to Teach Sustainability Concepts in Civil Engineering Materials

Raissa P. Ferron, Assistant Professor, University of Texas at Austin, Austin, TX

Practical Examples of Projects Using Sustainable Development Aspects

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

Small-Scale Development Projects in the Developing World—Practical Sustainability Education for Engineers

Kelsey Edwardsen, Structural Engineer, Bechtel Corporation, Richland, WA

Teaching Concrete Design Using Impromptu Design Exercises

Aleksandra Radlinska, Assistant Professor, Pennsylvania State University, University Park, PA

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.

The Green Building Certification has approved this session for 2 GBCI CE hours. ACI is a provider of GBCI-approved courses for continuing education.
Sunday, October 21, 2012
3:30 pm - 5:30 pm

The Art of Designing Ductile Concrete in the Past 50 Years: The Impact of the PCA Book and
Mete A. Sozen, Part 2 of 2
CIVIC SOUTH
Sponsored by ACI Committee 318, Structural Concrete Building Code

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

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

The session description and learning objectives for this session may be found in the Part 1 listing; see page 90.

Asking the Right Questions 3:30 pm
Mete A. Sozen, Kettlehut Distinguished Professor, Purdue University, West Lafayette, IN

Impact of the Blume, Newmark, and Corning Book on Reinforced Concrete Design 3:55 pm
Ronald L. Sharpe, Consulting Structural Engineer, Los Altos, CA

Drift Control as the Goal—The Case of the Colombian Code 4:20 pm
Luis E. García, Partner and President, Proyectos y Diseños Ltda, Bogota D.C., Colombia

Design and Detailing of Nonrectangular Walls 4:45 pm
Beth Brueggen, Associate III, Wiss, Janney, Elstner Associates, Inc., Irving, TX; and
Catherine E. French, University of Minnesota

Design of Multistory Concrete Buildings for Earthquake Motions 5:10 pm
Jake P. Moehle, T.Y. and Margaret Lin Professor of Engineering,
University of California at Berkeley, Berkeley, CA

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Sunday, October 21, 2012
5:45 pm - 7:00 pm

Opening Session and Katharine and Bryant Mather Lecture Series  GRAND WEST & CENTRE

Speaker: Bernard Erlin
President
The Erlin Company
Latrobe, PA

Topic: BRYANT MATHER…So We Will Never Forget Him—Forever

The ACI Fall 2012 Convention officially begins during the Opening Session and the Katharine and Bryant Mather Lecture Series. Bernard Erlin, President of The Erlin Company and an ACI member for nearly 40 years, will give a presentation titled “BRYANT MATHER…So We Will Never Forget Him—Forever.”

Bryant and Katharine Mather devoted a remarkable 98 combined years as members of ACI. They were also very active in numerous other industry-related organizations and associations. Their individual and joint efforts ranged from both working for the U.S. Army Corps of Engineers for over 40 years to serving on presidential committees at the White House.

The Mathers contributed a massive body of work during their combined tenures, which exceeded 100 years, through their investigation and research of various concrete materials and construction techniques. Bryant assisted in the development of the concrete industry from its metamorphosis using relatively uncontrolled concrete mixtures and irregularly tested concrete and concrete-making materials to the multitude of standards available today. During his early years, Bryant helped develop our understanding of cyclic freezing distress, air entrainment, and alkali-silica and alkali-carbonate aggregate reactivity. During his later years, he developed a concept about a new mechanism contributing to cyclic freezing distress—the Erlin-Mather effect. Bryant Mather was also a man of many nuances that you never heard about, but will.
Sunday, October 21, 2012
7:00 pm - 8:00 pm

Opening Reception
SHERATON HALL
Sponsored by the ACI Ontario Chapter

After the Opening Session, meet your colleagues and friends for a beverage from the cash bar and light refreshments in the exhibit area. This is an opportunity to expand your network and learn more about the products and services offered by the exhibitors.

While at the Opening Reception, look for the ACI Social Team at the first ACI TweetUp. Attendees are encouraged to network with fellow Tweeters and learn more about ACI’s social media efforts.
Alkali-silica reaction (ASR) is a major durability problem of concrete, where meta-stable forms of silica contained in many natural aggregates dissolve in the alkaline pore solution of concrete, and form an expansive alkali-lime-silica gel, which in the presence of moisture, swells and cracks the concrete. The problem was first discovered by Stanton in 1940, and has since affected important civil and military concrete structures (including dams and water structures, pavements, barriers, bridges, and nuclear power plants) in five continents of the world.

Since its discovery, ASR has attracted the attention of researchers from industry and academia. We now know that using a sufficient quantity of supplementary cementitious materials (SCMs) (for example, low-alkali Class F fly ash) or using certain lithium salts can mitigate ASR in new concrete. We have some understanding of the role of alkali content, moisture, and temperature on the magnitude and rate of reactions. In addition, we have a number of standard tests available to evaluate the ASR risk of aggregates and concrete mixtures.

Much progress has been made toward better understanding of ASR. It is important to ask if we currently know enough, as a community, to effectively manage and mitigate ASR, and to consider this durability problem “solved.” Here are some important questions to consider:

- What can we do with structures that are already affected?
- Can we slow down or stop ASR?
- Can we predict how fast ASR will progress and can we determine the remaining life?
- What is the effect of ASR on the safety and load-bearing capacity of a structure?
- Do we need to repair ASR damage, and what type of repair is the best?
- What are the limitations of existing standard test methods for predicting ASR performance in new or existing concrete?
The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.

123 Forum: Do We Know Enough to Manage and Mitigate ASR Deteriorations in New and Existing Concrete Structures? (cont.)

• Are new tests under development?
• Are all SCMs (including those with high alkali content) effective against ASR? And how should we determine the proper dosage of SCM to mitigate ASR?

A panel of experts will debate these questions and more to provide the audience with the current state of technology for management and mitigation of ASR. The forum will include a short presentation by each panelist, followed by an interactive discussion with the audience.

By attending this session, attendees will be able to:
1. Recognize the advantages and limitations of existing test methods for ASR assessment;
2. Explain methods for mitigation of ASR in new structures;
3. Provide examples of what does and doesn’t work to slow down ASR in affected structures; and
4. Recall how ASR impacts the safety and serviceability of structures.

Structural Implications of ASR 8:00 pm
Oguzhan Bayrak, Professor, University of Texas at Austin, Austin, TX

Importance of Field Monitoring for Prevention and Mitigation of ASR in Concrete Structures 8:15 pm
Benoit Fournier, Assistant Professor, Laval University, Quebec City, QC, Canada

How Reliable Are Current Testing Methods for Assessing Alkali-Silica Reactivity? 8:30 pm
Jason H. Ideker, Assistant Professor, Oregon State University, Corvallis, OR

New Developments in AAR Test Methods—Are They Good Enough? 8:45 pm
Prasad Rangaraju, Associate Professor, Clemson University, Clemson, SC
Hot Topic Session: Certification of Concrete Testing: Does it Ensure Quality? CIVIC NORTH
Sponsored by the Hot Topics Committee

Session Moderator: Clive Thurston
President
Ontario General Contractors Association
Mississauga, ON, Canada

With the movement toward performance specifications and the adoption of penalty/bonus clauses in contract documents, the issue of quality materials testing becomes a critical issue in both public and private construction projects. This roundtable discussion will focus on the benefits and limitations of concrete certification as offered by both ACI and the Canadian Standards Association (CSA). Each panelist will be given 5 to 7 minutes to address their views on this issue and the moderator will then open the discussion to all attendees of the seminar.

By attending this session, attendees will be able to:
1. Identify the benefits and limitations of concrete certification from ACI and CSA;
2. Compare the differences between the concrete certification programs;
3. Understand the impact of performance specifications on penalty/bonus clauses in contract documents; and
4. Recognize the importance of quality materials testing in both public and private construction projects.

Panelists:
Hannah C. Schell, Head Concrete Section, Ministry of Transportation, Downsview, ON, Canada
Joe Looby, President, Looby Construction Ltd., Dublin, ON, Canada
John Hull, President, Ready Mixed Concrete Association of Ontario, Mississauga, ON, Canada
John Bickley, President, John A. Bickley Associates Ltd., Leamington, ON, Canada
Derwyn Reuber, Co-Executive Director, Canadian Council of Independent Laboratories (CCIL), Toronto, ON, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Sunday, October 21, 2012
9:00 pm - 10:30 pm

Student and Young Professional Networking Event   BnB RESTAURANT AND BAR
Sponsored by the ACI Collegiate Concrete Council and the ACI Student and Young Professional Activities Committee

The ACI Collegiate Concrete Council and the ACI Student and Young Professional Activities Committee invite all convention attendees to the Student and Young Professional Networking Event. Meet fellow students and young professionals while networking with ACI members in a fun and casual environment. Attendees to the event will be entered into a drawing for door prizes. In addition, food and beverages will be available for purchase.
Monday, October 22, 2012
6:30 am - 8:00 am

Workshop for Technical Committee Chairs  GRAND WEST
Sponsored by the ACI Technical Activities Committee (TAC)

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

ACI Technical Committee Chairs are expected to attend this breakfast workshop to meet with fellow Chairs, TAC members, and ACI staff, and 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.
Monday, October 22, 2012
7:00 am - 8:30 am

Speaker Development Breakfast
ESSEX
Sponsored by ACI Committee S802, Teaching Methods and Educational Materials

Session Moderator: Colonel Fred Meyer
Director, Civil Engineering Division
United States Military Academy
West Point, NY

Speaker: Major Cullen Jones
Assistant Professor, Civil Engineering Division
United States Military Academy
West Point, NY

Topic: Using Prezi® as an Alternative to PowerPoint

This session provides an informal venue for attendees to learn about how to become better presenters. Join us for a free continental breakfast as we explore ways to become better presenters at ACI conventions, other conferences, client meetings, and school. Meet people from across the ACI spectrum who share your desire to learn and grow in this area.

Do you have difficulty helping your listeners step back and see the big picture after you have shown them the devil in the details on the chalkboard? Do the broad brush strokes of bullet-commented slides hasten focusing down to the fine lines of your message? Prezi® is a Cloud-based presentation software that opens up a new world between chalkboards and slides. The intuitive interface and zoomable canvas makes it fun to explore ideas and the connections between them. The result: visually captivating presentations that lead your audience down a path of discovery.
Monday, October 22, 2012
8:30 am - 10:30 am

ACI Career Networking Event
OSGOODE WEST
Sponsored by the ACI Student and Young Professional Activities Committee

The ACI Career Networking Event provides attendees with an excellent opportunity to network with potential employers. Individuals looking for new career opportunities are required to register for this event prior to the convention using the convention registration form. Preregistered attendees are also required to upload résumés to the ACI Career Center in advance and bring hard copies to the event.

All attendees are invited to stop by the ACI Career Networking Event to have their professional headshot taken by a photographer FREE of charge.
Advancements in the Use of Building Information Modeling (BIM) Systems, Part 1 of 2

Sponsored by the ACI Ontario Chapter

Session Moderator: Neb Erakovic
Principal
Yolles, A CH2M Hill Company
Toronto, ON, Canada

The Building Information Modeling (BIM) session will demonstrate a general acceptance of this new technology within the architectural/engineering/construction (AEC) industry as the way forward in the full integration of design, construction, and facilities management. Presentations will include examples of successful implementation into real-life projects—to move beyond viewing BIM as a stand-alone documentation approach.

By attending this session, attendees will be able to:
1. Identify the key benefits to using BIM;
2. Recognize the current challenges associated with the BIM workflow;
3. Understand that BIM is a methodology that is all about communication; and
4. Explain how collaboration and sharing information with others will improve the quality and efficiency of the finished product.

The WindEEE Dome—The Demonstration of the Successful Implementation 8:30 am
Marwan A. Kishek, Civil Engineer, Alfred Kishek & Sons, Windsor, ON, Canada

BIM + Robotic Total Station: Field Test for Cast-in-Place Concrete Construction 8:50 am
Julian Kang, Associate Professor, Texas A&M University, College Station, TX; and Adithya Ganapath, JinHoon Lee, and Vahid Faghihi, Texas A&M University

BIM Implementation Techniques in a Design-Build Mental Health Project 9:10 am
Wisaam Hijazi, BIM Coordinator, EllisDon Corporation, Mississauga, ON, Canada
Monday, October 22, 2012
8:30 am - 10:30 am

Advancements in the Use of Building Information Modeling (BIM) Systems, Part 1 of 2 (cont.)  DOMINION SOUTH

Leveraging Structural BIMs to Increase Efficiency  9:30 am
Michael Buckley, Project Manager, Robert Halsall Associates, Toronto, ON, Canada

BIM for Structural Design and Construction  9:50 am
Scott Burke, Building Solutions Team Manager, IMAGiNiT Technologies, Bedford, NH

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
The construction products of tomorrow will require not only durability but also sustainability. Buildings and infrastructure will be measured by cost, quality, and environmental impact.

Portland-limestone cements are products that can support the concrete industry in achieving its goal of being the product of choice. This session will cover the past, present, and future for limestone cements. Attendees will learn about what the product is, the new applicable specifications, where it has been used, and how it performs in both structural and pavement applications.

By attending this session, attendees will be able to:
1. Understand how portland-limestone cements have been used with great success in other parts of the world;
2. Interpret the changes to the newly revised ASTM C595, “Standard Specification for Blended Hydraulic Cements,” which now includes portland-limestone cements;
3. Identify the use of portland-limestone cements in pavement and structural concrete projects; and
4. Recognize the environmental and sustainability benefits associated with the specification and use of portland-limestone cements.

Portland-Limestone Cement—A Glimpse at the European Experience 8:30 am
Laurent Barcelo, Manager, Strategic Projects and Scientific Network, Lafarge North America, Pointe Claire, QC, Canada

Specification Changes to Define Portland-Limestone Blended Cements in ASTM C595/AASHTO M 240 8:55 am
Paul D. Tennis, Consulting Engineer, Portland Cement Association, Fort Mill, SC
Portland-Limestone Cements: A Technology to Improve the Sustainability of Concrete (cont.)

Mitigating Sulfate Attack on Concrete Made with Portland-Limestone Cements

9:20 am

R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada; and Reza Ahani and Amir Ramezanianpour, University of Toronto

Durability of Low-Carbon Concrete Produced with PLC and SCM

9:45 am

Michael Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada; and Anik Delagrave, Laurent Barcelo, and Bruce Blair, Lafarge North America

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
This session will feature presentations of original, unpublished results from ongoing research projects and leading-edge concrete technology and research throughout the world.

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

**Characterization of Class C Fly Ash Based Geopolymers  8:30 am**
Elisabeth Deir, Graduate Student, Clarkson University, Potsdam, NY; and Sulapha Peethamparan, Clarkson University

**Improving Performance of Portland-Limestone Cements in Low Temperature Sulfate Exposures  8:45 am**
Sajjad Mirvalad, Graduate Student, Concordia University, Montreal, QC, Canada; and Michelle Nokken, Concordia University

**Characterization of Mortars and Pastes Incorporating Alkali-Activated Glass Powder as a Pozzolanic Material  9:00 am**
Hamed Maraghechi, Graduate Student, Pennsylvania State University, University Park, PA; and Farshad Rajabiipour, Pennsylvania State University
Monday, October 22, 2012
8:30 am - 10:30 am

Research in Progress, Part 1 of 2 (cont.)

DOMINION NORTH

The Effects of Micro-Climate Variations on Service life Predictions of Reinforced Concrete Structures 9:15 am
Yunusa Alhassan, Graduate Student, University of the Witwatersrand, Johannesburg, Republic of South Africa; and Stephen Ekolu, and Yunus Ballim, University of the Witwatersrand

Solvent-Exchange Damage to Ettringite Microstructure 9:30 am
Rahil Khoshnazar, Graduate Student, University of Ottawa, Ottawa, ON, Canada; James Beaudoin and Laila Raki, National Research Council of Canada; and Rouhollah Alizadeh, Giatec Scientific Inc.

Assessment of Concrete Damaged due to ASR through Mechanical and Microscopic Tools 9:45 am
Leandro Sanchez, Graduate Student, Laval University, Quebec, QC, Canada; and Benoit Fournier and Marc Jolin, Laval University

Conductive Sensing Skin for Damage Detection in Concrete Elements: An Electrical Impedance Tomography (EIT) Approach 10:00 am
Milad Hallaji, Graduate Student, North Carolina State University, Raleigh, NC; and Mohammad Pour-Ghaz, North Carolina State University

Ultrasonic-Based Assessment of the Condition of Concrete Beams 10:15 am
Ahmet Kirlangic, Graduate Student, University of Waterloo, Waterloo, ON, Canada; and Giovanni Cascante and Maria Polak, University of Waterloo

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Monday, October 22, 2012
8:30 am - 10:30 am

Things They Don’t Teach You in School
CIVIC SOUTH
Sponsored by the ACI Student and Young Professional Activities Committee and S805, Collegiate Concrete Council-CGLE

Session Co-Moderators: Jeffery S. Volz
Assistant Professor
Missouri University of Science and Technology
Rolla, MO

Lesley H. Sneed
Assistant Professor
Missouri University of Science and Technology
Rolla, MO

The objective is to help engage students and young professionals of ACI by assisting in their early career development. The idea is to create a session that specifically addresses topics suggested by students and young professionals during the Collegiate Concrete Council meetings.

By attending the session, attendees will be able to:
1. Acquire an understanding of effective networking techniques;
2. Recognize potential business opportunities;
3. Perform the necessary steps to start an ACI student chapter; and
4. Recognize the vast potential of concrete in construction.

How to Succeed in Business 8:30 am
Peter Emmons, President, STRUCTURAL, Hanover, MD

The Nuts and Bolts of Starting an ACI Student Chapter 9:00 am
Jim Ernzen, Professor, Arizona State University, Tempe, AZ

From Concrete Sidewalks to the Burj Khalifa—
The Role of Concrete in Construction 9:30 am
Larry Novak, Manager-Building Structures, Portland Cement Association, Skokie, IL
Monday, October 22, 2012
8:30 am - 10:30 am

Things They Don’t Teach You in School (cont.)

Getting the Most Out of Your ACI Student Membership—A Student Forum

10:00 am

Jeffery S. Volz, Assistant Professor, Missouri University of Science and Technology, Rolla, MO; and Lesley Sneed, Missouri University of Science and Technology

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Acquaint Yourself with Toronto

DEPART MAIN LOBBY

$69.00 U.S. per person

This 3-hour bus tour will take you through the streets of Toronto, where you will enjoy views of historical and contemporary work by emerging and established Canadian, international, and indigenous artists. You will travel through unique neighborhoods, including the Theatre District, Financial District, Toronto Waterfront, and other cultural neighborhoods. You will also drive by the CN Tower and other Toronto landmarks of interest. Take advantage of the stop at Casa Loma for pictures!

Tour tickets may be purchased up until 24 hours prior to the event, based on availability. Tours are nonrefundable. All tours depart from the Toronto Tours desk in the main lobby of the Sheraton Centre Hotel.
Exhibitors may demonstrate equipment operation, introduce new products, demonstrate software capabilities, or describe the services provided by each participating company. These presentations may include PowerPoint shows, videos, and hands-on workshops. Each demonstration will conclude with a question-and-answer period. Attendees representing all areas of the concrete industry will find the demonstrations interesting and educational. Learn more about the products and services offered by the following companies.

<table>
<thead>
<tr>
<th>Time</th>
<th>Exhibitor</th>
<th>Presentation/Demo Title</th>
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<tbody>
<tr>
<td>10:30 am</td>
<td>Sensors &amp; Software</td>
<td>Imaging Concrete Structures with Ground-Penetrating Radar</td>
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<tr>
<td>12:45 pm</td>
<td>PERI Formwork Systems, Inc.</td>
<td>Civil Projects–Using PERI's VERIOKIT</td>
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<tr>
<td>1:30 pm</td>
<td>IBB Rheology</td>
<td>The New IBB Probe Technology</td>
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<td>2:15 pm</td>
<td>Giatec Scientific Inc.</td>
<td>Performance-Based Quality Control of Concrete</td>
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<tr>
<td>3:00 pm</td>
<td>Ryerson University</td>
<td>Development of Sustainable, Unshrinkable Fill Using Alternative Aggregate Sources</td>
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<td>3:30 pm</td>
<td>Doka</td>
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<tr>
<td>4:00 pm</td>
<td>Germann Instruments</td>
<td>3D Tomography with Impact-Echo</td>
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Additional demonstrations may be added following the printing of the convention program book. Please see an updated schedule in the demo area.
Monday, October 22, 2012
11:00 am - 1:00 pm

Advancements in the Use of Building Information Modeling (BIM) Systems, Part 2 of 2
DOMINION SOUTH
Sponsored by the ACI Ontario Chapter

Session Moderator: Neb Erakovic
Principal
Yolles, A CH2M Hill Company
Toronto, ON, Canada

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

Harnessing the Power of BIM 11:00 am
Brent Mauti, Architect, Principal Technologist, CH2M HILL Canada Limited, Toronto, ON, Canada

Development of an Information Delivery Manual (IDM) for Cast-in-Place Concrete 11:20 am
Peter J. Carrato, Principal Civil Engineer, Bechtel Corporation, Frederick, MD; and William M. Klorman, W M Klorman Construction Corporation

Does the Concrete Industry Risk Losing Ground due to a Slow Uptake of BIM? 11:40 am
Crispin Howes, Engineer, Studio for Progressive Modelling, Yolles, A CH2M HILL Company, Toronto, ON, Canada

BIM and Virtual Construction at PCL 12:00 pm
Dan Neufeglise, General Manager of Virtual Construction Services, PCL Constructors Canada, Inc., Mississauga, ON, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Monday, October 22, 2012
11:00 am - 1:00 pm

Blast Testing for Structural Performance Verification  CIVIC SOUTH
Sponsored by ACI Committee 370, Blast and Impact Load Effects

Session Co-Moderators:  Savita Goel
Project Director
Whitlock Dalrymple Poston &
Associates
New York, NY

James W. Wesevich
Senior Engineer
BakerRisk
Fair Oaks Ranch, TX

Various levels of structural analyses and modeling approaches have been performed to evaluate the structural behavior of concrete structural elements. Blast testing is essential to verify and validate analytical results as well as to explore unforeseen behavior not included in simplified and high-fidelity-based models. This session will present papers that describe testing performed for retrofit of existing structurally deficient elements and also for new structure elements using conventional and innovative strengthening approaches.

By attending this session, attendees will be able to:
1. Recognize the performance of specific innovative retrofitted structural elements subjected to blast loads. During this session, speakers will address if there is any difference in structural response behavior between structural analysis and blast testing;
2. Evaluate the performance of various retrofit approaches, limitations, and benefits using construction materials such as steel, concrete, and fiber-reinforced polymers (FRPs);
3. Learn about post-event damage condition assessment for retrofitted structural elements and their capacity to perform in resisting conventional loads; and
4. Identify areas of further research for structural analysis as well as blast load testing for retrofits that enhance the capacity of existing structural framing elements.
Blast Testing for Structural Performance Verification (cont.)

Lightweight FRP Reinforced Composite Blast Panels Validated with Testing
11:00 am
James Wesevich, Manager, Baker Engineering and Risk Consultants, San Antonio, TX; Thomas Mander, Baker Engineering and Risk Consultants; and Eric Wolff, Fyfe Company

Experimental Investigation of Various Retrofit Techniques for Reinforced Concrete Members Subjected to Blast Loading
11:20 am
Alan Lloyd, Graduate Research Assistant, University of Ottawa, Ottawa, ON, Canada; and Eric Jacques, University of Ottawa

BlastWall: Verification of an Integrated Masonry Wall and Window Retrofit System
11:40 am
David J. Hadden, Principal, Arup, London, UK

Experimental Assessment of the Blast Resistance of Long Carbon Fiber Reinforced Concrete
12:00 pm
Jeffery S. Volz, Assistant Professor, Missouri University of Science and Technology, Rolla, MO

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
A Service-Life Prediction Model for Concrete Bridge Decks Using Dynamic Bayesian Networks 11:00 am
Mariana Cruz, Graduate Student, University of Delaware, Newark, DE; and Thomas Schumacher, Nii Attoh-Okine, Harry Tripp Shenton, and Dennis Mertz, University of Delaware

Instability of Cable-Stayed Bridge Decks 11:15 am
Zachary McNeil, Graduate Student, Western University, London, ON, Canada

Seismic Performance of Columns with Recycled Concrete Debris 11:30 am
Mitchell McKay, Graduate Student, Georgia Institute of Technology, Atlanta, GA; and CS Walter Yang, Kim Nguyen, Kimberly E. Kurtis, and Reginald DesRoches, Georgia Institute of Technology

Seismic Retrofit of Conventional Reinforced Concrete Frames Using Ductile Steel Bracing Assembly 11:45 am
Zaid Al-Sadoon, Graduate Student, University of Ottawa, Ottawa, ON, Canada; and Murat Saatcioglu and Dan Palermo, University of Ottawa

The Effects of Strand Debonding on Shear Strength 12:00 pm
Michael Wesson, Graduate Student, Purdue University, West Lafayette, IN; and Robert Frosch and Michael Kreger, Purdue University
Monday, October 22, 2012
11:00 am - 1:00 pm

Research in Progress, Part 2 of 2 (cont.)

DOMINION NORTH

Bond Strength of Lap-Spliced Corrosion Resistant Reinforcing Steel
12:15 pm
Chungwook Sim, Graduate Student, Purdue University, West Lafayette, IN; and Robert J. Frosch, Purdue University

Continuous Transverse Reinforcement—Behavior and Code Implications
12:30 pm
Alyssa Doellman, Graduate Student, University of Cincinnati, Cincinnati, OH; and Melody Miller, Herbert Bill, and Bahram Shahrooz, University of Cincinnati

Numerical Study of the Behavior of High Strength Concrete and High Strength Steel Reinforced Concrete Slabs Subjected to Blast Loading
12:45 pm
Ganesh Thiagarajan, Associate Professor, University of Missouri-Kansas City, Kansas City, MO; Anirudha Kadambi, University of Missouri-Kansas City; and Stephen Robert and Carol Johnson, Engineering Research and Design Center

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Ultra-high-performance concrete (UHPC) has been available for 30 years, but it is only recently that its use has increased dramatically, especially in France, Denmark, and Japan (to mention a few).

Activities in UHPC are now also increasing in North America, and an increasing amount of development is taking place. At the same time, the users and interested parties from Academia to Homeland Security are getting organized (for example, ACI Committee 239) to promote UHPC for durable infrastructure for high-strength construction and for structures resistant to damage from accidents or intentional incidents. At the same time, there is experience and there are applications that have been commercial for a long time. The sessions will describe new projects overseas and also present some experiences and new developments from North America. The key issues described in this presentation are the use of local materials, complete structures and components in UHPC, UHPC material properties, and future goals.

By attending this session, attendees will be able to:
1. Recognize common raw materials and mixture proportions for UHPC;
2. Identify applications for UHPC;
3. Understand the flexural and bond behavior of UHPC; and
4. Recognize future needs, such as testing standards and applications for UHPC.
Monday, October 22, 2012
11:00 am - 1:00 pm

UHPC—Experience and Developments, Part 1 of 2 (cont.)
CIVIC NORTH

UHPC—A Multi-Purpose Material: Application-Oriented Evaluation of Raw Materials and Mix Design
11:00 am
Michael Schmidt, Professor, University of Kassel, Kassel Hessen, Germany

CRC—Experience with Precast Applications of UHPC and New Developments
11:20 am
Bendt K. Aarup, Manager, CRC Technology, Hjallerup, Denmark

Synopsis of Field-Cast UHPC Connections for Precast Bridge Elements and Systems
11:40 am
Vic Perry, Professional Engineer, Lafarge North America, Inc., Calgary, AB, Canada; Mathew Royce, New York State Department of Transportation; and W. D. Young and Raymond Krisciunas, Ministry of Transportation Ontario

UHPC for Structural Connections
12:00 pm
Benjamin Graybeal, Research Structural Engineer, Federal Highway Administration, McLean, VA

Flexural and Bond Behavior of UHPC with Local Materials
12:20 pm
Eric T. Visage, Graduate Research Assistant, New Mexico State University, Las Cruces, NM; and Craig M. Newtson, David Jauregui, and Brad Weldon, New Mexico State University

Behavior of Ultra-High-Performance Fiber-Reinforced Concrete under Direct Tensile Loading
12:40 pm
Kay Wille, Assistant Professor, University of Connecticut, Storrs, CT; and Antoine E. Naaman, University of Michigan

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.

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Monday, October 22, 2012
11:30 am - 1:30 pm

✓ Student Lunch
GRAND WEST
$43 U.S. per person
FREE to students who preregister
Sponsored by Baker Concrete Construction Company, Inc.

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

Speaker: John A. Bickley
President
John A Bickley Associates Ltd
Leamington, ON, Canada

Dr. John A. Bickley, P.Eng., will deliver a presentation about the CN Tower titled “A 1970’s Adventure in Concrete Technology.” The construction of the CN Tower was both a challenge and an adventure. Technologies that were used are still relevant today. Bickley is one of the most recognized experts on concrete construction technology in North America. He has had a considerable impact on Toronto’s use of high-performance concrete and the city’s reputation as one of the few in North American with a sophisticated concrete industry. Awards from the Student Egg Protection Device Competition will also be presented.

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

✓ = separate fee required

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Monday, October 22, 2012
1:30 pm - 3:30 pm

Emerging Technologies, Part 1 of 2
Sponsored by the ACI Ontario Chapter

Session Moderator: Hannah C. Schell
Head Concrete Section
Ministry of Transportation
Downsview, ON, Canada

The “Emerging Technologies” Technical Sessions will focus on new and innovative materials and technologies that are currently being implemented in the concrete construction industry. Presentation topics include introduction of portland-limestone cement in Canada; advances in the evaluation of long-term concrete durability; and successful application of new approaches to concrete condition assessment, repair, and rehabilitation. Speakers will discuss materials and technologies with potential to increase the sustainability of concrete. The session, organized by the local convention committee, will include a Canadian perspective from industry, academic, and public agency representatives.

By attending this session, attendees will be able to:
1. Acquire knowledge of new technologies used for concrete construction and repair;
2. Identify emerging areas of academic research that may be of potential relevance to their work;
3. Evaluate potential techniques for assessing the durability and condition of concrete; and
4. Assess the suitability of new/innovative materials and technology to address concrete repair and maintenance needs.

Concrete Pavements Containing Portland-Limestone Cement and Supplementary Cementing Materials—Performance Review after 3 and 4 Years 1:30 pm
Michael Thomas, Professor, University of New Brunswick, Frederickton, NB, Canada; and Kevin M. Cail, Kenneth G. Kazanis, Bruce Blair, Laurent Barcelo, and Anik Delagrave, Lafarge North America

The Dig Down Below Toronto Union Station—80-Year-Old Concrete Augmented with Modern Technology 1:50 pm
Hassan Saffarini, Structural Engineering Manager, NORR Limited, Toronto, ON, Canada; and Scott Norris, NORR Limited
Monday, October 22, 2012
1:30 pm - 3:30 pm

Emerging Technologies, Part 1 of 2 (cont.)  DOMINION SOUTH

Photocatalytic Concrete Field Trial on an Ontario Freeway  2:10 pm
David Rhead, Concrete Engineer, Ontario Ministry of Transportation, Downsview, ON, Canada; and Daman K. Panesar, University of Toronto

Pre-Packaged High-Performance Concrete Used for Bridge Replacement  2:30 pm
William Clements, Technical Services Representative, King Packaged Materials Company, Burlington, ON, Canada

Recent and Ongoing Research and Development Results in Shotcrete Technology  2:50 pm
Marc Jolin, Assistant Professor, Laval University, Quebec City, QC, Canada; and Nicolas Ginouse, Laval University

Development and Use of Rapid-Setting Self-Consolidating Concrete for Bridge Repairs  3:10 pm
Jacques A. Bertrand, President, Ambex Concrete Technologies, Inc., Laval, QC, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Forming a Framework for Performance-Based Seismic Design of Concrete Bridges, Part 1 of 2  

Sponsored by ACI Subcommittee 341-D, Earthquake Resistant Bridges—Performance-Based Seismic Design

Session Co-Moderators:  
Oh-Sung Kwon  
Assistant Professor  
University of Toronto  
Toronto, ON, Canada

Pedro F. Silva  
Associate Professor  
The George Washington University  
Washington, DC

In this session, the latest developments in performance-based seismic design and assessment of bridges will be presented. The presentations cover large-scale experimental study, consideration of soil-foundation structure interaction in seismic performance assessment of bridges, design of cable-stayed bridges, and displacement-based design of multi-span bridges.

By attending this session, attendees will be able to:
1. Understand the overall framework of performance-based earthquake engineering through several application examples;
2. Learn the effects of soil-foundation structure interaction on the seismic performance of bridge piers;
3. Understand the seismic performance bridge columns identified through large-scale tests; and
4. Describe how the performance-based approach can be applied to design multi-span or cable-stayed bridges.

Conceptual Seismic Design of Cable-Stayed Bridges 1:30 pm  
Gian Michele Calvi, Professor of Structural Design, University of Pavia, Pavia, Italy

Development of Displacement-Based Design for Multi-Span Bridges 1:55 pm  
Mervyn J. Kowalsky, Professor, North Carolina State University, Raleigh, NC; M. J. Nigel Priestley, University of California, San Diego; and Gian Michele Calvi, University of Pavia
Monday, October 22, 2012
1:30 pm - 3:30 pm

Forming a Framework for Performance-Based Seismic Design of Concrete Bridges, Part 1 of 2 (cont.)  
CIVIC SOUTH

Effect of Load History on the Behavior of Circular Bridge Columns 2:20 pm
Jason C. Goodnight, Student, North Carolina State University, Raleigh, NC; and Mervyn J. Kowalsky, James M. Nau, and Yuhao Feng, North Carolina State University

Performance-Based Assessment and Protection of Bridges 2:45 pm
Jian Zhang, Assistant Professor, University of California, Los Angeles, Los Angeles, CA; and Wang Xi, University of California, Los Angeles

Performance-Based Assessment of Existing Bridges with Wall-Type Piers and Structural Deficiencies 3:10 pm
Pia Hannewald, Student, Swiss Federal Institute of Technology in Lausanne, Lausanne, Switzerland; Katrin Beyer, Swiss Federal Institute of Technology in Lausanne; and Boyan Mihaylov, University of Toronto

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement, Part 1 of 2  DOMINION NORTH

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

Session Co-Moderators:  Halil Sezen
Associate Professor
The Ohio State University
Columbus, OH

Wael A. Zatar
Professor
Marshall University
Huntington, WV

Practicing engineers increasingly favor the use of high-strength concrete and reinforcement in their design. However, the use of very-high-strength materials is currently limited by ACI and in many parts of the world, specifically in high seismic regions. This session will include recent research and engineering applications of high-strength materials.

By attending this session, attendees will be able to:
1. Evaluate when and where to use high-strength concrete and steel reinforcement in new design projects;
2. Explain the advantages of using high-strength concrete and reinforcement, especially in high-rise structures and high seismic regions;
3. Recognize examples of the types of high-strength materials used in practical applications; and
4. Specify emerging high-performance materials in design of civil infrastructure.

Blast Behaviour of Ultra-High-Strength CRC Columns  1:30 pm
Hassan Aoude, Assistant Professor, University of Ottawa, Ottawa, ON, Canada

High-Strength Concrete Columns Confined with Spirals  1:55 pm
Riyadh A. Hindi, Associate Professor, Saint Louis University, St. Louis, MO; and Lonnie A. Marvel, Saint Louis University
Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement,
Part 1 of 2 (cont.) DOMINION NORTH

Residual Lateral Load Capacity of a High-Strength Reinforced Concrete Column after Fire Damage 2:20 pm
Hossein Mostafaei, Research Associate, National Research Council Canada, Ottawa, ON, Canada

Behavior of Columns with High-Strength Concrete and Steel Reinforcement 2:45 pm
Kuo-Chun Chang, Professor, National Taiwan University, Taipei, Taiwan ROC; Tony C. Liu, National Taiwan University; and Samuel Yen-Liang Yin and Raymond Wang, Ruentex Group

Examination of Stress Block Parameters for High-Strength Concrete 3:05 pm
Sungjin Bae, Structural Engineer, Bechtel Company, Frederick, MD

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Shrinkage-compensating concrete is made with an expansive cement or expansive component system in which initial expansion can offset strains caused by drying shrinkage. It can reduce or eliminate cracking due to drying shrinkage. In this manner, shrinkage-compensating concrete can increase the durability of concrete structures, meet serviceability requirements, and meet performance-based specifications. This session will highlight current developments in shrinkage-compensating concrete—presenting new research in shrinkage-compensating concrete—and discuss how shrinkage-compensating concrete can meet the future needs of our industry.

By attending this session, attendees will be able to:
1. Describe the mechanism by which shrinkage-compensating concrete develops;
2. Understand the behavior of shrinkage-compensating concrete with varying boundary conditions;
3. Explain the dimensional stability of shrinkage-compensating slabs-on-ground and structural concrete; and
4. Specify shrinkage-compensating concrete in a civil engineering project.

History of Type K Shrinkage-Compensating Cement 1:30 pm
Edward K. Rice, President, CTS Cement Manufacturing Company, Los Angeles, CA

600 Bridges without Cracks 2:00 pm
Edward McLean, Engineer/Sales Manager, CTS Cement Manufacturing Company, Columbia, IL

Behavior of Type K Shrinkage-Compensating Concrete under Various Forms of Mechanical Restraint 2:30 pm
Seth Roswurm, Student, University of Oklahoma, Norman, OK; and Chris C. Ramseyer, University of Oklahoma
Monday, October 22, 2012
1:30 pm - 3:30 pm

Shrinkage-Compensating Concrete—Past, Present, and Future, Part 1 of 2 (cont.)  CIVIC NORTH

Experiences on the Use of Component G in México  3:00 pm
Alma L. Reyes, Latin America Technology Manager, The Euclid Chemical Company, Mexico City, Mexico
Monday, October 22, 2012
3:30 pm - 5:00 pm

★ Guest Social

ESSEX

All registered guests are invited to join Mrs. Linda Wight for light refreshments. This is a wonderful opportunity to get to know other registered guests and enjoy a refreshing break! A guest name badge is required to attend this event.

★ = Guest-only event
Monday, October 22, 2012
4:00 pm - 6:00 pm

Analysis and Design Issues in Liquid-Containing Structures, Part 1 of 3  GRAND WEST
Sponsored by ACI Committee 350, Environmental Engineering Concrete Structures

Session Moderator:  M. Reza Kianoush
Professor
Ryerson University
Toronto, ON, Canada

The objective of this session is to present the latest analytical procedures, experimental findings, and construction practice issues related to liquid-containing structures (LCS). In these structures, issues related to crack and leakage control criteria under hydrostatic and seismic loading are of main concern. An improved understanding of the behavior of these types of structures is necessary to ensure safe and cost-effective standards. As such, simplified design procedures based on performance criteria can be developed to design and construct LCS efficiently and economically.

By attending this session, attendees will be able to learn the latest developments on the analysis and design procedures, repair methods, and construction practices issues related to LCS.

By attending this session, attendees will be able to:
1. Identify the latest developments in design codes and standards related to LCS;
2. Understand how to control cracking and leakage in LCS;
3. Recognize the details on construction specifications; and
4. Demonstrate how to efficiently and economically evaluate and repair existing LCS.

Assessment of Existing Rectangular Concrete Water Tanks and Rehabilitation Utilizing Fiber-Reinforced Polymer 4:00 pm
Ravi Kanitkar, Senior Associate, Crosby Group, Redwood City, CA

Investigation of Water Leakage through Direct Tension Cracks in Reinforced Concrete Panels 4:20 pm
Nezam Bozorgzadeh, Professor, University of Toronto, Toronto, ON, Canada
Analysis and Design Issues in Liquid-Containing Structures, Part 1 of 3 (cont.)

Structural Repair of Settling Tanks in a Mexican Copper Mine Using FRP

Mohammad R. Ehsani, President, QuakeWrap Inc., Tucson, AZ; and Carlos E. Peña, QuakeWrap Mexico

Thermal Effects of Restrained Roof on Circular Tank Walls—Conversion to Non-Restrained Roof: A Case Study

Martin J. Fradua, Vice President, Feld Kaminetzky & Cohen PC, Jericho, NY; and Pericles C. Stivaros, Feld Kaminetzky & Cohen PC

Blast Design of Orlando VA Medical Center

2M Gallon Reservoir

Jeffrey S. Ward, Chief Structural Engineer, The Crom Corporation, Gainesville, FL

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.

Monday, October 22, 2012
4:00 pm - 6:00 pm

**Emerging Technologies, Part 2 of 2**

DOMINION SOUTH

Sponsored by the ACI Ontario Chapter

Session Moderator: Hannah C. Schell  
Head Concrete Section  
Ministry of Transportation  
Downsview, ON, Canada

The session description and learning objectives for this session may be found in the Part 1 listing; see page 128.

**Evaluating Concretes Using Rapid Resistivity Measurements for Fluid Penetration Resistance** 4:00 pm

R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada; and Ahmad Shahroodi, Giatec Scientific Inc.

**Alkali Reactivity of Reclaimed Concrete Aggregate: Evaluation, Testing, and Preventative Measures** 4:20 pm

Medhat H. Shehata, Associate Professor, Ryerson University, Toronto, ON, Canada

**Zinc Oxide Retarder** 4:40 pm

Neal S. Berke, Principal Scientist, Tourney Consulting Group, LLC, Kalamazoo, MI

**Beneficial Hydration Synergies of Portland-Limestone Cements** 5:00 pm

Tim Cost, Senior Technical Service Engineer, Holcim (US) Inc., Canton, MS

**Durability and Debond Evaluation of High-Rise Concrete Buildings Using Infrared Thermography** 5:20 pm

C. S. Poon, Professor of Civil and Environmental Engineering, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong
Monday, October 22, 2012
4:00 pm - 6:00 pm

Forming a Framework for Performance-Based Seismic Design of Concrete Bridges, Part 2 of 2
Sponsored by ACI Subcommittee 341-D, Earthquake Resistant Bridges—Performance-Based Seismic Design

Session Co-Moderators: Oh-Sung Kwon
Assistant Professor
University of Toronto
Toronto, ON, Canada
Pedro F. Silva
Associate Professor
The George Washington University
Washington, DC

The session description and learning objectives for this session may be found in the Part 1 listing; see page 130.

Performance-Based Earthquake Engineering Analysis of Humboldt Bay Middle Channel Bridge 4:00 pm
Joel P. Conte, Professor, University of California - San Diego, La Jolla, CA

Shake-Table Performance of a Caltrans-Designed Bridge Column 4:25 pm
Jose I. Restrepo, Professor of Structural Engineering, University of California - San Diego, La Jolla, CA; Matthew J. Schoettler, University of California - Berkeley; and Gabriele Guerrini, University of California - San Diego

The Impact of Soil-Foundation Interaction Effects on the Seismic Performance of Bridge Piers 4:50 pm
Stavroula J. Pantazopoulou, Professor of Civil Engineering, Demokritus University of Thrace, Xanthi, Greece; and Anastasios Kotsoglou, Democritus University of Thrace

Use of Damage Mechanics in Performance-Based Design of Concrete Bridges 5:15 pm
Patrick Paultre, Professor, University of Sherbrooke, Sherbrooke, QC, Canada; and Luis Ignacio Cardona, University of Sherbrooke

P-Δ Effects in Limit State Design of Slender Reinforced Concrete Bridge Columns 5:40 pm
Pedro F. Silva, Associate Professor, George Washington University, Washington, DC; and Rigoberto Burgueno, Michigan State University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Monday, October 22, 2012
4:00 pm - 6:00 pm

Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement, Part 2 of 2  DOMINION NORTH
Sponsored by Joint ACI-ASCE Committee 441, Reinforced Concrete Columns

Session Co-Moderators:  Halil Sezen
Associate Professor
The Ohio State University
Columbus, OH

Wael Mohammed Hassan
Professional Structural Engineer
Skidmore, Owings & Merrill LLP
Berkeley, CA

The session description and learning objectives for this session may be found in the Part 1 listing; see page 132.

Numerical Estimates of the Seismic Response of Building Structures Reinforced with High-Strength Steel  4:00 pm
Jeffrey Rautenberg, Associate II Engineer, Wiss, Janney, Elstner Associates, Inc., Emeryville, CA; and Santiago Pujol, Purdue University

Design Issues and Application of High Strength Concrete for High Rise Buildings  4:20 pm
Hideki Kimura, General Manager, Takenaka Corporation, Inzai City, Japan

Shear Behavior of Reinforced Concrete Columns with High-Strength Steel and Concrete under Low Axial Load  4:40 pm
Yu Chen Ou, Associate Professor, Taipei City, Taiwan ROC; and Dimas Pramudya Kurniawan and Nuraziz Handika, National Taiwan University of Science and Technology

Behavior of Biaxially Loaded High-Strength Concrete Columns  5:00 pm
Wael Mohammed Hassan, Senior Structural Engineer, Skidmore, Owings & Merrill LLP, Berkeley, CA; M. Sameh Hilal, Hilal Structural Design & Consultants; Heba Hamed Bahnasawy, National Building Research Center; and Hossam A. Hodhod, Cairo University
Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement, Part 2 of 2 (cont.)

Design of Seismic Confinement of Reinforced Concrete Columns Using High-Strength Material 5:20 pm
Shyh-Jiann Hwang, Professor, National Taiwan University, Taipei, Taiwan ROC

Seismic Fragility Assessment of High-Strength Reinforced Concrete Columns Considering Parameter Uncertainty 5:40 pm
Shahria Alam, Assistant Professor, University of British Columbia, Kelowna, BC, Canada; and Abu Hena Muntasir Billah, University of British Columbia
Monday, October 22, 2012
4:00 pm - 6:00 pm

Shrinkage-Compensating Concrete—Past, Present, and Future, Part 2 of 2  
CIVIC NORTH
Sponsored by ACI Committee 223, Shrinkage-Compensating Concrete

Session Moderator:  Chris C. Ramseyer
Assistant Professor
University of Oklahoma
Norman, OK

The session description and learning objectives for this session may be found in the Part 1 listing; see page 134.

Dimensional Stability of Type K Concrete Slabs-on-Ground  4:00 pm
Shideh Shadravan, Lecturer, Cornell University, Ithaca, NY

The Use of Type K Shrinkage Compensating Concrete (SCC) in an Underground Water Tank  4:30 pm
Kyle R. Renevier, Student, University of Oklahoma, Norman, OK; and Chris C. Ramseyer, University of Oklahoma

Joint Reduction Using Type K Shrinkage-Compensating Concrete  5:00 pm
Edwin A. Mclean, Engineer Sales Manager, CTS Cement Manufacturing Company, Columbia, IL

Revolution in Shrinkage Compensation  5:30 pm
Lawrence J. Valentine, Regional Engineer, ShrinkageComp Plus, Inc., Concord, NC; and Jason Barnes, Green Umbrella

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Monday, October 22, 2012
6:00 pm - 7:00 pm

Women in ACI Reception

All registered convention attendees are invited to attend the Women in ACI Reception. This long-standing ACI tradition is a great opportunity to get to know other women in the concrete industry. A cash bar and light hors d’oeuvres will be served.
Monday, October 22, 2012
6:30 pm - 8:00 pm

✓ Hope & Schupack Honorary Reception

ESSEX

$32 U.S. per person

This reception is in honor of two distinguished members of ACI Committee 222—Brian Hope and Morris Schupack—who have made great contributions in the field of metal corrosion in concrete. This is a follow-up to the Hope & Schupack Corrosion Symposium that was held at the ACI Spring 2012 Convention in Dallas, TX. The symposium was opened with two tribute papers: one to Brian Hope, which was presented by Carolyn Hansson, and the other to Morris Schupack, which was presented by Andrea Schokker. These tribute papers were followed with more than 10 excellent papers that were presented in four parts of the symposium. An ACI Special Publication, as the proceedings of this symposium, is under preparation and will be published soon. Please join other ACI attendees at this honorary reception. The ticket price includes hors d’oeuvres and a cash bar.

PREREGISTRATION IS REQUIRED TO ATTEND. Tickets may be purchased at the ACI Registration Desk up to 24 hours prior to the event, based on availability. Please notify the ACI Registration Desk if you have any dietary restrictions.
Applications of Acoustic Emission for Reinforced Concrete, Part 1 of 2  DOMINION SOUTH
Sponsored by ACI Committees 228, Nondestructive Testing of Concrete, and 437, Strength Evaluation of Existing Concrete Structures

Session Co-Moderators:  Paul H. Ziehl
                        Associate Professor
                        University of South Carolina
                        Columbia, SC

                        Frederick D. Heidbrink
                        Associate Principal
                        Wiss, Janney, Elstner Associates, Inc.
                        Northbrook, IL

The objective of the session is to provide an update of the current state of the art and practice related to the evaluation of reinforced concrete (RC) structures with acoustic emission. The session is targeted to practicing engineers and researchers. Outcomes include familiarization with sensor placement and data interpretation techniques for assessment of corrosion, load testing, structural health monitoring, and other applications.

By attending this session, attendees will be able to:
1. Recognize applications that would benefit from acoustic emission monitoring technology;
2. Gain insight into the mechanisms and sources of acoustic emission;
3. Understand the potential advantages and challenges related to sensing with acoustic emission; and
4. Specify emerging technologies in civil infrastructure.

Emission Monitoring of Concrete Structures:
Qualitative versus Quantitative Methods  8:30 am
Thomas Schumacher, Assistant Professor, University of Delaware, Newark, DE; and Lassaad Mhambi, University of Delaware

Damage Qualification and Mechanisms of Corrosion-Induced Cracks in Reinforced Concrete by Acoustic Emission  8:48 am
Masayasu Ohtsu, Professor, Kumamoto University, Kumamoto, Japan; Tomoe Kobarai, Kumamoto University; and Yuma Kawasaki, Ritsumeikan University
The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
These sessions will demonstrate to attendees the latest innovations in formwork systems and concrete material applications on real-world construction projects. The sessions will also highlight the extensive use of concrete in the development of infrastructure-related projects.

By attending this session, attendees will be able to:
1. Better understand the development of formwork pressure when using self-consolidating concrete;
2. Identify potential new uses for advanced concrete formwork systems;
3. Recognize how precast, cast-in-place concrete and shotcrete can all be used to construct cost-effective infrastructure projects; and
4. Demonstrate the use of precast tunnel liner segments for both subway systems and below-grade water distribution systems.

TTC Toronto—York Spadina Subway Extension 8:30 am
George Panagopoulos, Site Construction Manager, Toronto–York Spadina, Toronto, ON, Canada

Windsor BIIG 9:00 am
Dennis Regan, Senior Project Engineer, Ministry of Transportation, London, ON, Canada

Metrolinx Connections—Growing Opportunities in Transportation Infrastructure Construction 9:30 am
Bruce McCuaig, President and CEO, Metrolinx, Toronto, ON, Canada
Tuesday, October 23, 2012
8:30 am - 10:30 am

Contractors’ Day Session—Concrete’s Contribution to Infrastructure, Part 1 of 3 (cont.)

Niagara Tunnel Project
Ernst Gschnitzer, Project Manager, Strabag Inc., Niagara Falls, ON, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Means and Methods of Evaluating Reinforced Concrete Structures  DOMINION NORTH
Sponsored by ACI Committee E702, Designing Concrete Structures

Session Co-Moderators:

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

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

The main objective of this session is to present a broad perspective on the important issues related to the evaluation of concrete structures.

By attending this session, attendees will be able to:
1. Understand and/or identify evaluation methods for nondestructive testing;
2. Recognize and/or identify some of the significant people in the concrete industry;
3. Describe some of the load testing methods for evaluating concrete structures; and
4. Identify destructive testing methods.

Let’s Be Practical: Tips, Tricks, and Ideas to Make Field Investigations Better  8:30 am
Lawrence Homer Taber, Structural Engineer, Black & Veatch, Overland Park, KS

Condition Assessment and Concrete Repair Strategies at Water Treatment Structures  9:00 am

Assessment of Concrete T Beams Strengthened with Enlarged Reinforced Section  9:30 am
Hayder A. Rasheed, Associate Professor, Department of Civil Engineering, Kansas State University, Manhattan, KS; and Tarek Alkhdajji, STRUCTURAL
Means and Methods of Evaluating Reinforced Concrete Structures (cont.)

Condition Assessment of an Overlaid Bridge Deck Using Non-Destructive Testing Methods
10:00 am


The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
In recent years, significant advancements have been made to use internal curing not only to mitigate autogenous shrinkage but also to enhance the in-place concrete performance. The objectives of this session are to assess the economics, performance, and sustainability of internal curing in various concrete applications. The following topics will be covered: mixture proportioning, internal curing methods, hydration impacts, volume change effects, mechanical properties, durability aspects, life-cycle cost analysis, impact on sustainability, and case studies that document the use of internal curing.

By attending this session, attendees will be able to:
1. Explain how internal curing works;
2. Recognize various options to introduce internal curing in concrete;
3. Understand the behavior of internally cured concrete; and
4. Describe the use of internally cured concrete in various field applications.

Internal Curing: Lessons from Yesterday and Hope for Tomorrow 8:30 am
W. Jason Weiss, Professor, Purdue University, West Lafayette, IN

Effect-Processing Variables on the Efficiency of Eucalyptus Pulp Fiber for Internal Curing 8:50 am
Passarin Jongvisuttisun, Graduate Student, Georgia Institute of Technology, Atlanta, GA; and Kimberly E. Kurtis, Georgia Institute of Technology
The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.

Tuesday, October 23, 2012
8:30 am - 10:30 am

The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 1 of 3 (cont.)

Field Performance of Internally Cured Concrete Bridge Decks in New York State

Donald A. Streeter, Concrete Program Manager, New York State Department of Transportation, Troy, NY; Ronald E. Vaughn, Northeast Solite Corporation; and William H. Wolfe, Norlite Corporation

Prediction of Drying Shrinkage for Internally Cured HPC

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

Using Internal Curing to Mitigate Early-Age Cracking and Increase the Performance of Reinforced Concrete with Respect to Corrosion

Kambiz Raoufi, Materials Manager, Bechtel Inc., Houston, TX; and W. Jason Weiss, Purdue University
Exhibitors may demonstrate equipment operation, introduce new products, demonstrate software capabilities, or describe the services provided by each participating company. These presentations may include PowerPoint shows, videos, and hands-on workshops. Each demonstration will conclude with a question-and-answer period. Attendees representing all areas of the concrete industry will find the demonstrations interesting and educational. Learn more about the products and services offered by the following companies.

<table>
<thead>
<tr>
<th>Time</th>
<th>Exhibitor</th>
<th>Presentation/Demo Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 am</td>
<td>Germann Instruments</td>
<td>Non-Destructive Testing Equipment for Structural Integrity Evaluation: 3D Tomography, Impact-Echo and Impulse Response</td>
</tr>
<tr>
<td>9:45 am</td>
<td>Giatec Scientific Inc.</td>
<td>A Novel Technology for Corrosion Detection in Reinforced Concrete Bridges</td>
</tr>
<tr>
<td>10:30 am</td>
<td>GSSI</td>
<td>GPR for the Concrete Industry</td>
</tr>
<tr>
<td>11:15 am</td>
<td>HCM Group</td>
<td>Sustainable Engineering Design Audit (SEDA)</td>
</tr>
<tr>
<td>12:00 pm</td>
<td>Kryton International, Inc.</td>
<td>Waterproofing Concrete vs. Waterproofing a Concrete Structure</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>S-FRAME</td>
<td>Comprehensive and Intuitive Design of Reinforced Concrete Beams, Columns, and Walls with S-CONCRETE</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Doka</td>
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</tbody>
</table>

Additional demonstrations may be added following the printing of the convention program book. Please see an updated schedule in the demo area.
Tuesday, October 23, 2012
9:30 am - 2:00 pm

✓ Art Gallery of Ontario DEPART MAIN LOBBY
$176.00 U.S. per person

With thousands of unforgettable artworks in 110 dazzling galleries, the Art Gallery of Ontario has become the destination for extraordinary art and architecture—European, Canadian, and contemporary art, including the world-renowned Thomson collection. Our excursion also includes a three-course lunch at the Art Gallery of Ontario's signature restaurant, FRANK, designed by celebrated international architect Frank Gehry.

Tour tickets may be purchased up until 24 hours prior to the event, based on availability, are nonrefundable. All tours depart from the Toronto Tours desk in the main lobby of the Sheraton Centre Hotel.

✓ = separate fee required

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Tuesday, October 23, 2012
11:00 am - 1:00 pm

Applications of Acoustic Emission for Reinforced Concrete, Part 2 of 2
DOMINION SOUTH

Sponsored by ACI Committees 228, Nondestructive Testing of Concrete, and 437, Strength Evaluation of Existing Concrete Structures

Session Co-Moderators: Frederick D. Heidbrink
Associate Principal
Wiss, Janney, Elstner Associates, Inc.
Northbrook, IL

Zabihallah Moradian
Student
University of Sherbrooke
Sherbrooke, QC, Canada

The session description and learning objectives for this session may be found in the Part 1 listing; see page 146.

Structural Health Monitoring of Concrete Structures Using Quantitative Acoustic Emission Monitoring Techniques 11:00 am
Lassaad Mhambi, PhD Candidate, University of Delaware, Newark, DE; and Thomas Schumacher, University of Delaware

Quantification of Damage during Cyclic Load Test of Prestressed Concrete Girders Using Acoustic Emission 11:20 am
Mohamed ElBatanouny, Student, University of South Carolina, West Columbia, SC; and Paul H. Ziehl, Francisco Barrios, and Jese Mangual, University of South Carolina

Evaluation of Severely Cracked Prestressed Bridge Girders with Acoustic Emission 11:45 am
Robert W. Barnes, Assistant Professor, Auburn University, Auburn, AL; Paul H. Ziehl, University of South Carolina; Jiangong Xu, Michael Baked Engineering, Inc.; and Tom Hadzor, Auburn University

Damage Evaluation of Prestressed Piles Connected to CIP Bent Caps Using Acoustic Emission 12:05 pm
Aaron K. Larosche, PhD Candidate, University of South Carolina, Columbia, SC
Applications of Acoustic Emission for Reinforced Concrete, Part 2 of 2 (cont.)

Acoustic Emission Monitoring of the Onset of Corrosion in Reinforced Concrete 12:25 pm
Matteo Di Benedetti, PhD Candidate, University of Miami, Coral Gables, FL; and Antonio Nanni, Felipe Mejia, Enrico de Cais, and Giovanni Loreto, University of Miami

Acoustic Emission Performance of Concrete Beams with GFRP and Steel Bars after Accelerated Aging 12:45 pm
Yeonho Park, Postdoctoral Researcher, University of Texas at Arlington, Arlington, TX; Guillermo Ramirez, Exponent Failure Analysis Associates; and Ali Abolmaali, University of Texas at Arlington

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Machine Foundations, Part 1 of 2  
CIVIC NORTH
Sponsored by ACI Committee 351, Foundations for Equipment and Machinery

Session Moderator: Mukti L. Das  
Principal Civil Engineer  
Bechtel Power Corporation  
Frederick, MD

This session provides a forum for engineers and other stakeholders to exchange their experiences; present the state of practice; and discuss various issues related to modeling, design, detailing, and construction of machine foundations. This session will also have several presentations on the foundation systems for solar- and wind-power structures, which are upcoming and pose special challenges.

By attending this session, attendees will be able to:
1. Explain the foundation systems used for various machines;
2. Understand the analytical modeling for static and dynamic loadings;
3. Recognize the design and detailing issues related to machine foundations; and
4. Compare the design and detailing issues for foundations for solar- and wind-power structures.

Foundation Design Criteria for Vibratory Machines  11:00 am  
William L. Bounds, Director Structural Engineer, Fluor Corporation, Sugar Land, TX; and Silky Wong, Fluor Corporation

Dynamic Finite Element Model with Field Calibration  11:30 am  
Bashar S. Qubain, President, GeoStructures, Inc., King Of Prussia, PA; and Jianchao Li and Michael G. Franceschina, GeoStructures, Inc.

Calculation of Dynamic Impedance of Surface and Embedded Foundations Using Finite Element Procedures  12:00 pm  
Carlos Arturo Coronado, Structural Engineer, Bechtel Power, Gaithersburg, MD; and Neha Gidwani, Bechtel Power
Foundation Design Consideration for Wind and Solar Towers

Zlatan Siveski, Senior Engineering Specialist, Bechtel Power, Freden, MD; and Javeed Munshi and Mukti L. Das, Bechtel Power Corporation

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Tuesday, October 23, 2012
11:00 am - 1:00 pm

UHPC—Experience and Developments, Part 2 of 2  CIVIC SOUTH
Sponsored by ACI Committees 234, Silica Fume in Concrete; 239, Ultra-High Performance Concrete; and 363, High-Strength Concrete

Session Co-Moderators:  Per Fidjestol
Technical Manager
Elkem ASA Materials
Kristiansand, Norway

Theresa M. Ahlborn
Associate Professor
Michigan Technological University
Houghton, MI

The session description and learning objectives for this session may be found in the Part 1 listing; see page 125.

300 MPa High-Strength Precast Concrete 11:00 am
Keiki Yamamoto, Faculty, Utsunomiya University, Utsunomiya, Japan; and Hiroshi Jinnai, Taisei Corporation

Micro-Reinforcement in Combination with Ultra-High-Performance Concrete 11:15 am
Philipp Hofmann, Vice-President Structural Technologies, STRUCTURAL, Hanover, MD

New Material in Need of New Testing Standards 11:30 am
COL Fred Meyer, Director, Civil Engineering Division, United States Military Academy, West Point, NY; and Christopher H. Conley, United States Military Academy

Ultra-High-Performance Concrete for Blast Mitigation 11:45 am
John J. Myers, Associate Professor, Missouri University of Science and Technology, Rolla, MO; and Natalia Carey, Anthony Wulfers, and Julie Willey, Missouri University of Science and Technology

Application of Ultra-High-Performance Concrete in Bridge Columns 12:00 pm
Pedram Zohrevand, Postdoctoral Research Associate, Florida International University, Miami, FL; and Amir Mirmiran, Florida International University
Tuesday, October 23, 2012
11:00 am - 1:00 pm

UHPC—Experience and Developments, Part 2 of 2 (cont.)

UHPC Material and Design Approach on Jean-Bouin Stadium and MUCEM Museum
Dominique Corvez, Group Technical Director Ductal, Lafarge, Paris, France

Ductal Integration at the Rotman School of Management
John Peterson, Associate, KPMB Architects, Toronto, ON, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Tuesday, October 23, 2012
11:30 am - 1:30 pm

✓ Contractors’ Day Lunch
CITY HALL
$50 U.S. per person
Hosted by the ACI Ontario Chapter and the Construction Liaison Committee

Speaker: Peter Wilson
Vice President of Project Delivery
Infrastructure Ontario
Toronto, ON, Canada

Topic: Building the Pan/Parapan American Games

Join other ACI attendees and contractors for the Contractors’ Day Lunch. Enjoy a special presentation by Peter Wilson, Vice President of Project Delivery, on the PanAM Games Athlete’s Village project. Peter Wilson has over 20 years of varied experience in project management. He joined Infrastructure Ontario in 2006 to take on a portfolio of seven projects totaling in excess of $1 billion in construction value, including the PanAM Athlete’s Village project.

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

✓ = separate fee required
Experience Toronto’s largest gallery district—all within walking distance. You will visit the Gardiner Museum, which is showcasing a collection described as a “jewel box of ceramic treasures.” Following this, you will be introduced to some of the smaller galleries of Yorkville and enjoy an hour of free time in the Yorkville/Bloor street area—one of the best shopping districts with high-end boutiques, antique stores, and more. Many of the Victorian-Gothic houses of Yorkville have been transformed into prime commercial space.

Tour tickets may be purchased up until 24 hours prior to the event, based on availability. **Tours are nonrefundable.** All tours depart from the Toronto Tours desk in the main lobby of the Sheraton Centre Hotel.
Tuesday, October 23, 2012
1:30 pm - 3:30 pm

Analysis and Design Issues in Liquid-Containing Structures, Part 2 of 3

DOMINION NORTH

Sponsored by ACI Committee 350, Environmental Engineering Concrete Structures

Session Moderator: M. Reza Kianoush
Professor
Ryerson University
Toronto, ON, Canada

The session description and learning objectives for this session may be found in the Part 1 listing; see page 137.

Bond Strength of Diaphragm—Shotcrete Interface in Vertical Direction for AWWA D110, Type III Tanks 1:30 pm
Sanjay S. Mehta, Senior Structural Engineer, Preload Inc., Hauppauge, NY

Introduction of ACI 350.5, Specification for Environmental Engineering Concrete Structures 1:50 pm
Charles S. Hanskat, Managing Principal, Hanskat Consulting Group, Northbrook, IL

Dynamic Earth Pressure—Myths, Realities, and Practical Ways for Design 2:10 pm
Javeed Munshi, Principal, Bechtel Power, Frederick, MD; and Carlos Arturo Coronado, Bechtel Power

Shrinkage and Temperature Reinforcement in Environmental Structures 2:30 pm
Steven R. Close, Principal Engineer, Jorgensen & Close Associates Inc., Golden, CO

Crack Control in Two-Way Reinforced Concrete Panels 2:50 pm
Armin Ziai, Postdoctoral Fellow, Ryerson University, Toronto, ON, Canada; Risto Protic, Associated Engineering Alberta Ltd; and M. Reza Kianoush, Ryerson University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Tuesday, October 23, 2012
1:30 pm - 3:30 pm

Contractors’ Day Session—Forming Our Future:
Innovations and Advancements in Concrete
Forming, Part 2 of 3

Sponsored by the ACI Ontario Chapter

Session Co-Moderators:  Alain Belanger
Sales Supervisor - Ontario
National Concrete Accessories
Toronto, ON, Canada

Bart Kanters
Director of Technical Services
Ready Mixed Concrete Association
of Ontario
Mississauga, ON, Canada

The session description and learning objectives for this session
may be found in the Part 1 listing; see page 148.

Advancements in Concrete Forming Systems  1:30 pm
Ian Steer, Director and General Manager, Aluma Systems Inc.,
Concord, ON, Canada

Evaluating Formwork Pressures Utilizing SCC  2:00 pm
Lloyd J. Keller, Director, EllisDon Corporation, Mississauga,
ON, Canada

Architectural Concrete Hardscaping  2:30 pm
Pat DiPaolo, President, UCC Group Inc., Toronto, ON, Canada

Canadian Museum for Human Rights  3:00 pm
Neb Erakovic, Principal, Yolles, A CH2M Hill Company, Toronto,
ON, Canada; and Terry Dawson, Yolles, A CH2M Hill Company

The American Institute of Architects (AIA) has approved
this session for 2 Learning Units. ACI is an AIA/CES
Registered Provider.
The Open Paper Session is a forum for presenting recent technical information that could not be scheduled into other convention sessions.

By attending this session, attendees will be able to:
1. Recognize new and emerging materials for civil infrastructures;
2. Demonstrate the various methods to assess the current conditions of structures and how to repair them;
3. Identify recent techniques, research methods, and procedures related to the structural and material aspects of concrete; and
4. Explain the behavior of various high-performance cementitious composites.

A Simplified Method for Nonlinear Analysis of Shear-Critical Frames 1:30 pm
Serhan Guner, Structural Engineer, Morrison Hershfield Limited, Toronto, ON, Canada; and Frank J. Vecchio, University of Toronto

Fly Ash Characteristics that Affect Concrete Sulfate Resistance 1:50 pm
Karla Kruse, Associate I, Wiss, Janney, Elstner Associates, Inc., Cleveland, OH; and Kevin J. Folliard, University of Texas at Austin

Creep, Thermal, and Live Load Effects on Positive Moment Development in a Continuous Prestressed Concrete Girder Bridge 2:10 pm
A.M. Okeil, Associate Professor, Department of Civil Environmental Engineering, Louisiana State University, Baton Rouge, LA; and T. Hossain, Louisiana State University
Open Paper Session, Part 1 of 2 (cont.)

DOMINION SOUTH

1:30 pm - 3:30 pm

The Use of Super-Absorbent Polymers to Mitigate Shrinkage of Concrete
Hans W. Reinhardt, Professor, University of Stuttgart, Stuttgart, Germany; and Alexander Assmann, University of Stuttgart

Models for the Structural Behavior of Steel Fiber Reinforced Concrete Members
Seong-Cheol Lee, Assistant Professor, KEPCO International Nuclear Graduate School, Ulsan, South Korea; Frank J. Vecchio, University of Toronto; and Jae-Yeol Cho, Seoul National University

Freeze-Thaw Durability of Portland Cement Concrete Containing Crumb Rubber Particles
Shubhada Gadkar, Graduate Student, Glenn Department of Civil Engineering, Clemson University, Clemson, SC; and Prasadarao Rangaraju, Clemson University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Tuesday, October 23, 2012
1:30 pm - 3:30 pm

The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 2 of 3

CIVIC SOUTH

Sponsored by ACI Committees 130, Sustainability of Concrete; 213, Lightweight Aggregate and Concrete; and 231, Properties of Concrete at Early Ages

Session Moderator: W. Jason Weiss
Professor
Purdue University
West Lafayette, IN

The session description and learning objectives for this session may be found in the Part 1 listing; see page 152.

The Genesis, Evolution, and Accelerated Use of Internal Curing
1:30 pm

Ronald E. Vaughn, Senior Sales Engineer, Northeast Solite Corporation, Wynantskill, NY; and Max Kalafat, Bruce W. Jones, Randall Butcher, and John Roberts, Northeast Solite Corporation

Mass Production and Utilization of Self-Curing Cement in Thailand
1:55 pm

Wilasa Vichit-Vadakan, Senior Researcher, Siam Cement Group, Bangkok, Thailand; and Jirawan Siramanont, Siam Research and Innovation Company Ltd.

Case Studies of Internal Curing of Bridge Decks in the Greater Cleveland Area
2:20 pm

Norbert J. Delatte, Assistant Professor, Cleveland State University, Broadview Heights, OH; and Dale Crowl, Ohio Department of Transportation

Modeling of Internal Curing with SAP at Meso- and Macro-Level
2:45 pm

Mateusz Wyrzykowski, Postdoctoral Research Fellow, Swiss Federal Laboratories for Materials Science and Technology, Dubendorf, Switzerland; Pietro Lura, EMPA Switzerland; and Dariusz Gawin, University of Lodz

Durability Design of High-Performance Concrete Bridge Decks Using Lightweight Aggregate and Shrinkage-Reducing Admixture
3:10 pm

Daniel Cusson, Research Officer, National Research Council Canada, Ottawa, ON, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Tuesday, October 23, 2012
4:00 pm - 5:30 pm

Contractors’ Day Session—Forming Our Future: Innovations and Advancements in Concrete Forming, Part 3 of 3  
CITY HALL

Sponsored by the ACI Ontario Chapter

Session Co-Moderators:  
Alain Belanger  
Sales Supervisor - Ontario  
National Concrete Accessories  
Toronto, ON, Canada

Bart Kanters  
Director of Technical Services  
Ready Mixed Concrete Association of Ontario  
Mississauga, ON, Canada

The session description and learning objectives for this session may be found in the Part 1 listing; see page 148.

Forming and Construction Challenges with the “Absolute World” Project  
4:00 pm
Tony Dinardo, General Manager, Premform Limited, Brampton, ON, Canada; and Yury Gelman, Sigmund, Soudack & Associates, Inc.

Innovations with the VARIOKIT Forming System  
4:30 pm
Michael Guindy, Engineering Manager, PERI Formwork Systems Inc., Mississauga, ON, Canada; and Christine Gilbert, Innocon

Utilization of CLSM Concrete for Earth-Supporting Applications  
5:00 pm
Nadir Ansari, Principal, Isherwood Associates, Mississauga, ON, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Tuesday, October 23, 2012
4:00 pm - 6:00 pm

Analysis and Design Issues in Liquid-Containing Structures, Part 3 of 3  GRAND CENTRE
Sponsored by ACI Committee 350, Environmental Engineering Concrete Structures

Session Moderator: M. Reza Kianoush
Professor
Ryerson University
Toronto, ON, Canada

The session description and learning objectives for this session may be found in the Part 1 listing; see page 137.

Comparison of Crack Width Calculation According to American and European Regulations (ACI 350 Versus EN 1992-1-1)  4:00 pm
Josef Roetzer, Head of Engineering, STRABAG International GmbH, Munich, Germany

Thin Shell Spherical Concrete Domes in Environmental Structures  4:20 pm
Kenneth R. Harvey, Vice President, Engineering, Caldwell Tanks Inc., Louisville, KY

Design of Circular Concrete Tanks—A Simplified Approach  4:40 pm
Mahmoud E. Kamara, Senior Consultant, StructurePoint, Skokie, IL

Microwave Oven Test Used in Quality Control of Concrete for Liquid-Containing Structures  5:00 pm
Jun Zheng Chen, Structural Engineer, CH2M Hill Canada Ltd, Toronto, ON, Canada; and Rashmi Parikh and Jimmy Thannickal, CH2M Hill Canada Ltd

Why Does Concrete Crack and Can Cracking Be Eliminated?  5:20 pm
Richard Dray, Senior Structural Consultant, Cole Engineering Group Ltd., Mississauga, ON, Canada

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Joint KCI-ACI Session: International-Level Research, Practice, and Partnerships, Part 1 of 3—Historical and Innovative Perspectives

DOMINION NORTH

Sponsored by ACI Committee IC-Part, International Partnerships & Publications

Session Moderator: Thomas Kang
Assistant Professor
Seoul National University
Seoul, Korea

The Korea Concrete Institute (KCI), in collaboration with ACI, will host a panel of international experts in the fields of mega concrete structures, high-performance technologies, and historical and state-of-the-art perspectives on structural concrete. KCI intends to promote international partnership and collaboration as well as inform participants on the historical and latest breakthroughs related to concrete and concrete design codes by presenters from Asia, North America, and other continents. Researchers and engineers who attend will have the opportunity to learn more about recent exciting progress of international-level research and practice.

By attending this session, attendees will be able to:
1. Acquire international-level research knowledge on a variety of topics, such as tall building design, infrastructure rehabilitation, durability, and new materials and systems;
2. Share practical approaches and best practices for international mega projects related to concrete and concrete-steel composite structures;
3. Review the historical development and recent advancements of the design codes of the United States, Korea, and other countries; and
4. Integrate the state of the art and practice of concrete design with concrete codes, and develop new design and constructional solutions based on such integration.

New Korean Bridge Design Code for Limit States and Seismic Design

4:05 pm

Jae Hoon Lee, Professor, Yeungnam University, Daegu, Korea;
Woo Kim, Chonnam National University; Young Soo Chung, Chung-Ang University; and Hyun Mock Shin, Sungkyunkwan University
Joint KCI-ACI Session: International-Level Research, Practice, and Partnerships, Part 1 of 3—Historical and Innovative Perspectives (cont.) DOMINION NORTH

ACI 318—1956 to Now 4:25 pm
James R. Cagley, President, Cagley & Associates Inc., Rockville, MD

The Effects of Hole and Segmentation on HIPC Girder 4:45 pm
Manyop Han, Professor, Ajou University, Suwon, Korea; and Chiho Lee, Supportec Co, Ltd.

The History of the Seismic Design Code in Mexico 5:05 pm
Roberto Stark, Consultant, Stark + Ortiz S.C., Mexico City, Mexico

Impact and Blast Resistance of Ultra High Performance Concrete (UHPC) 5:25 pm
Youngsoo Yoon, Professor, Korea University, Seoul, Korea; and Kyunghwan Min, Dooyeol Yoo, and Jinyoung Lee, Korea University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Tuesday, October 23, 2012
4:00 pm - 6:00 pm

**Machine Foundations, Part 2 of 2**

Sponsored by ACI Committee 351, Foundations for Equipment and Machinery

Session Moderator: Mukti L. Das
Principal Civil Engineer
Bechtel Power Corporation
Frederick, MD

The session description and learning objectives for this session may be found in the Part 1 listing; see page 158.

**Design Machine Foundation in Congested Areas** 4:00 pm
Gang Mei, Engineer, WorleyParsons Resources & Energy Group, Reading, PA

**Seismic Design and Evaluation for Existing Concrete Foundation Structure Retrofit to Support Steam Turbine/Generator/Condenser with Sub Skid/Spring/Damper Assemblies** 4:30 pm
Ping Jiang, Supervising Structural Engineer, WorleyParsons Group, Reading, PA; and Ronald W. McDonel and Rodney Hill, WorleyParsons Group

**Comparison of Building Code Requirements for Fatigue Analysis** 5:00 pm
Shu-Jin Fang, Technical Advisor, Sargent & Lundy, Chicago, IL; and Tomas Vazquez and Xuan Wang, Sargent & Lundy

**Shale Gas Field Compressor Foundation Issues—Proper Foundation Details from Concrete to Anchor Bolts to Grout** 5:30 pm
Robert L. Rowan Jr., Director, Robert L Rowan & Associates, Houston, TX; and Geoffrey S. Anderson, Tech Transfer

*The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.*
Tuesday, October 23, 2012
4:00 pm - 6:00 pm

Open Paper Session, Part 2 of 2
DOMINION SOUTH
Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators:  Sulapha Peethamparan
                        Assistant Professor
                        Clarkson University
                        Potsdam, NY

                        Eric Giannini
                        Assistant Professor
                        The University of Alabama
                        Tuscaloosa, AL

The session description and learning objectives for this session
may be found in the Part 1 listing; see page 166.

Enhancing Thermal Mass Utilization of Buildings with
Hollow Core Slab Active Floor Systems  4:00 pm
H. Burak Gunay, Graduate Student, Carleton University, Department
of Civil and Environmental Engineering, Ottawa, ON, Canada;
A. Ghani Razaqpur, McMaster University; O. Burkan Isgor,
Carleton University; and Simon Foo, Public Works and Governmental
Services Canada

Microindentation Creep of 45 Year Old Hydrated
Portland Cement Paste  4:20 pm
Pouya Pourbeika, PhD Student, University of Ottawa, Department
of Civil Engineering, University of Ottawa, Ottawa, ON, Canada;
J.J. Beaudoin and L. Raki, National Research Council Canada; and
R. Alizadeh, Giatec Scientific Inc.

Combined Externally Bonded GFRP and NSM Steel Bars
for Improved Strengthening of Concrete Beams  4:40 pm
Hayder A. Rasheed, Associate Professor, Department of Civil Engi-
neering, Kansas State University, Manhattan, KS; Abdelbaset
Traplsi and Augustine Wuertz, Kansas State University; and Tarek
Alkhrdaji, Structural Technologies

Maximizing Carbonation Reaction for Concrete
Blocks Curing  5:00 pm
Hilal El-Hassan, Graduate Student, McGill University, Montreal,
QC, Canada; and Zaid Ghouleh and Yixin Shao, McGill University
Open Paper Session, Part 2 of 2 (cont.)

DOMINION SOUTH

Shear Behavior of Reinforced High-Strength Concrete Beams 5:20 pm
S.V.T. Janaka Perera, Postdoctoral Research Fellow, Saitama University, Saitama, Japan; and Hiroshi Mutsuyoshi, Saitama University

Examining Concrete Properties Containing Recycled Glass Cullet as a 100% Fine Aggregate Replacement 5:40 pm
Jared R. Wright, Graduate Student, Department of Civil and Environmental Engineering, Pennsylvania State University, University Park, PA; and Christopher Cartwright and Farshad Rajabipour, Pennsylvania State University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Tuesday, October 23, 2012
4:00 pm - 6:00 pm

The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 3 of 3  CIVIC SOUTH

Sponsored by ACI Committees 130, Sustainability of Concrete; 213, Lightweight Aggregate and Concrete; and 231, Properties of Concrete at Early Ages

Session Moderator: Jiri G. Grygar
Technical Services Manager
Texas Industries
Sandy, UT

The session description and learning objectives for this session may be found in the Part 1 listing; see page 152.

Optimizing the Sustainability of Concrete through Internal Curing
4:00 pm
John P. Ries, Technical Director/President, Expanded Shale, Clay and Slate Institute, Salt Lake City, UT

Internal Curing of Low Water-Cement Paste with Jute Fiber for Prevention of Autogenous Shrinkage
4:25 pm
Mitsuo Ozawa, Assistant Professor, Gifu University, Gifu, Japan; and Hiroaki Morimoto, Gifu University

Design and Construction of an Internally Curing Slab
4:40 pm
Robert T. Bates, President, Bates Engineering Inc., Lakewood, CO; and Erik Holck, Denver Water

Early-Age Stress Development of Internally Cured Concrete
5:05 pm
Benjamin E. Byard, University of Tennessee at Chattanooga, Soddy-Daisy, TN; and Anton Karel Schindler and Robert W. Barnes, Auburn University

Chloride Transport Measurements for a Plain and Internally Cured Concrete Mixture
5:30 pm
Di Bella Carmelo, Master’s Student, Purdue University, West Lafayette, IN; and W. Jason Weiss, Chiara Villani, and Elizabeth Hausheer, Purdue University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Faculty members and students are invited to attend this informal reception. During this time, you will have an opportunity to exchange ideas and network. Light hors d’oeuvres and a cash bar will be available.
Tuesday, October 23, 2012
6:30 pm - 8:30 pm

100 Mile Concrete Mixer at the Royal Ontario Museum
ROYAL ONTARIO MUSEUM
Sponsored by the ACI Ontario Chapter

Join us for a cocktail party in the spectacular Michael Lee-Chin Crystal Court at the Royal Ontario Museum, Canada’s largest museum of World Cultures and Natural History. Enjoy an evening of light hors d’oeuvres and live jazz from University of Toronto’s Jazz Quartet while mingling among the priceless collections of the Daphne Cockwell Gallery of Canada: First Peoples, as well as the Sigmund Samuel Gallery of Canada. Museum docents will be available to answer questions and offer insight into the works displayed in the galleries. The 100 Mile Concrete Mixer will feature local delicacies, beer from Toronto’s microbreweries, and Niagara wines. Attendees will have an opportunity to peruse the Royal Ontario Museum gift shop and purchase keepsakes during the mixer. Following the 100 Mile Concrete Mixer, attendees are encouraged to enjoy dinner at one of the many excellent restaurants in Yorkville, just a few steps from the museum.

Buses will be available to take attendees from the Sheraton Centre to the Royal Ontario Museum and back beginning at 6:15 pm from the main lobby. Buses will run until 9:15 pm.

Drink tickets for the 100 Mile Concrete Mixer are included in your name-badge holder.
Joint KCI-ACI Session: International-Level Research, Practice, and Partnerships, Part 2 of 3—
Hi-Performance Technologies

Sponsored by ACI Committee IC-Part, International Partnerships & Publications

Session Moderator: Thomas Kang
Assistant Professor
Seoul National University
Seoul, Korea

The session description and learning objectives for this session may be found in the Part 1 listing; see page 171.

Bond of Reinforcing Bars with Alternating High and Low Ribs 8:35 am
Oan Chul Choi, Professor, Soong Sil University, Seoul, Korea; and Geonho Hong, Hoseo University

Low-Cracking High-Performance Concrete for Bridge Decks 8:55 am
David Darwin, Distinguished Professor, University of Kansas, Lawrence, KS; and JoAnn P. Browning and Ben A. Pendergrass, University of Kansas

High-Performance Concrete in Korean Highway 9:15 am
Tae-Song Ahn, Technical Director, Korea Concrete Institute, Seoul, Korea; and Hong-Sam Kim, Korea Expressway Corp.

CFRP for Strengthening Prestressed Concrete I-Girders 9:35 am
James O. Jirsa, Janet S. Cockrell Centennial Chair in Engineering, University of Texas at Austin, Austin, TX; Wassim M. Ghannoum, University of Texas; and Jose E. Garcia, Hunt and Joiner, Inc.

A New Composite Girder Consisting of Hybrid FRP and Precast Ultra-High-Strength Fiber-Reinforced Concrete 9:55 am
S.V.T. Janaka Perera, Postdoctoral Research Fellow, Saitama University, Saitama, Japan; Hiroshi Mutsuyoshi, Saitama University; and Nguyen Duc Hai, Marshall University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Natural Pozzolans—Renaissance of a Proven Technology, Part 1 of 2

DOMINION SOUTH

Sponsored by ACI Committee 232, Fly Ash & Natural Pozzolans in Concrete

Session Moderator: Robert E. Neal
Technical Services Engineer
Lehigh Portland Cement Company
Richmond, VA

Natural pozzolans were used extensively in the construction of dams and other mass structures in the United States during the mid-twentieth century. In more recent times, they have become recognized as a viable pozzolanic material to enhance the engineering properties of concrete. This session will address an overview of the variety of materials classified as natural pozzolans, how natural pozzolans can improve the engineering properties of concrete, and examples of natural pozzolans currently being used in concrete construction in the United States and Europe. Engineers, contractors, and concrete suppliers should attend.

By attending this session, attendees will be able to:
1. Identify materials used as natural pozzolans in concrete mixtures;
2. Understand the beneficial properties that natural pozzolans provide when used in concrete;
3. Recognize concrete projects, including dams and other mass structures, that used natural pozzolans; and
4. Explain the effects on durability of using natural pozzolans in concrete mixtures.

Natural Pozzolans—An Overview

8:30 am
Karthik H. Obla, Managing Director of Research & Materials Engineering, NRMCA, Silver Spring, MD

History of Natural Pozzolan Use in Dams in the Western U.S.

8:45 am
Thomas J. Van Dam, Program Director, CTLGroup, Skokie, IL

The Evaluation and Selection of Natural Supplementary Cementitious Materials for Blended Cements

9:05 am
Stephen C. Morrical, Technical Service Engineer, Holcim (US) Inc., Three Forks, MT; and Todd S. Laker, Holcim (US) Inc.
Wednesday, October 24, 2012
8:30 am - 10:30 am

Natural Pozzolans—Renaissance of a Proven Technology, Part 1 of 2 (cont.)

Effect of Grinding on the Pozzolanic Reactivity of Natural Pozzolans 9:25 am
Caijun Shi, Principal Scientist, Hunan University, Changsha Hunan, China

Metakaolin—Projects and Applications 9:50 am
Ken S. McPhalen, Manager Technical Services, Advanced Cement Technologies, Blaine, WA
Wednesday, October 24, 2012
8:30 am - 10:30 am

Sustainability of Concrete Pavements
CIVIC SOUTH
Sponsored by ACI Committees 325, Concrete Pavements; 327, Roller-Compacted Concrete Pavements; and 330, Concrete Parking Lots and Site Paving

Session Co-Moderators: Peter G. Bly
Research Civil Engineer
U.S. Army Engineer Research & Development Center
Vicksburg, MS

Anthony M. Sorcic
Technical Service Manager
Holcim (US) Inc.
Decatur, TX

This session provides an overview of pavement sustainability concepts. The intended audience includes decision-makers, engineers, material suppliers, public agencies, and contractors. The session includes the most recent technical information and best practices related to concrete pavement design, higher concrete pavement sustainability through use of new materials, construction techniques and designs, pavement design options from life-cycle environmental perspective and pavement properties, and their impacts on fuel consumption.

By attending this session, attendees will be able to:
1. Understand what sustainability is and what attributes of concrete pavements can make them a sustainable choice;
2. Account for the long-term operational sustainability benefits from pavement selection and design decisions;
3. Understand how decision-makers and design teams readily assess highway/pavement design options from a life-cycle environmental perspective before they are built; and
4. Recognize a mechanistic approach to rationalize pavement-vehicle interaction (PVI) and create a link between pavement properties and their impacts on fuel consumption.
Wednesday, October 24, 2012
8:30 am - 10:30 am

Sustainability of Concrete Pavements (cont.)  
CIVIC SOUTH

A Global Approach on Pavement Sustainability  
8:30 am
Julie K. Buffenbarger, Engineering & Architectural Specialist, Lafarge, Medina, OH; and Laurent Barcelo, Lafarge

Introducing the Impact Estimator for Highways Software  
8:50 am
Jamie Meil, Managing Director, Athena Sustainable Materials Institute, Ottawa, ON, Canada

Moving LCA into the Pavement Design Space  
9:10 am
Kamyab Zandi Hanjari, Postdoctoral Associate, Massachusetts Institute of Technology, Cambridge, MA; and Franz Josef Ulm and Mehdi Akbarian, MIT, Department of Civil and Environmental Engineering

Sustainability Opportunities with Pavements: Are We Focusing on the Right Stuff?  
9:30 am
Leif G. Wathne, Director of Highways, American Concrete Pavement Association, Washington, DC

Sustainable Concrete Pavements: A Manual of Practice  
9:50 am
Peter C. Taylor, Engineer, National Concrete Technology Pavement Center, Ames, IA
Wednesday, October 24, 2012
9:00 am - 2:00 pm

✓ Tour of Old Toronto
   DEPART MAIN LOBBY
   $119.00 U.S. per person

Enjoy a 5-hour chartered city tour of Old Town Toronto, the St. Lawrence Market (rated one of the top 25 markets in the world), and Corktown. For lunch, you will enjoy a one-of-a-kind dining experience in the Distillery Historical District at Archeo Restaurant. Afterward, the time is yours to discover the hidden treasures in this pedestrian-only village dedicated to the arts, culture, food, and entertainment.

Tour tickets may be purchased up until 24 hours prior to the event, based on availability. Tours are nonrefundable. All tours depart from the Toronto Tours desk in the main lobby of the Sheraton Centre Hotel.
Wednesday, October 24, 2012
11:00 am - 1:00 pm

Contrasting Approaches to Blast-Resistant Design for Differing Contexts

Sponsored by ACI Committee 370, Blast and Impact Load Effects

Session Co-Moderators:  Khaled A. El-Domiaty
Structural Lead Supervisor
Baker Engineering & Risk Consultants
Arlington, VA

William L. Bounds
Director Structural Engineer
Fluor Corporation
Sugar Land, TX

This session will provide contrasting approaches for the blast design of facilities with differing functions, safety and security requirements, and on-site challenges. Presentations will demonstrate differences in blast threats, loading, and effects for multiple industries, resulting in variable design criteria, procedures, and mitigation techniques.

By attending this session, attendees will be able to:
1. Compare and review the guidelines for blast resistance and anti-terrorism design of buildings;
2. Understand the design of blast-resistant structures housing energetic materials for explosive safety;
3. Recognize blast and fragmentation effects of close-range detonations and related mitigation techniques; and
4. Identify the characteristics of process plant blast-resistant design.

Introduction to Contrasting Approaches to Blast-Resistant Design  11:00 am
Khaled A. El-Domiaty, Structural Lead Supervisor, Baker Engineering & Risk Consultants, Arlington, VA

Characteristics of Process Plant Blast-Resistant Design  11:20 am
William L. Bounds, Director Structural Engineer, Fluor Corporation, Sugar Land, TX

Comparison and Review of Guidelines for Blast Resistance and Anti-Terrorism Design of Buildings  11:40 am
Aldo E. McKay, Project Engineer, Protection Engineering Consultants, San Antonio, TX; and Marlon L. Bazan, Protection Engineering Consultants
Wednesday, October 24, 2012
11:00 am - 1:00 pm

Contrasting Approaches to Blast-Resistant Design for Differing Contexts (cont.)
Design of Blast-Resistant Structures for Explosives Safety Applications
William H. Zehrt, Chief Structures Branch, DoD Explosives Safety Board, Alexandria, VA

Blast and Fragmentation Effects of Close-Range Detonations and Related Mitigation Techniques
Khaled A. El-Domiaty, Structural Lead Supervisor, Baker Engineering & Risk Consultants, Arlington, VA
In recent years, human sustainability has been increasingly associated with the integration of economic, social, and environmental spheres. The cement-based materials industry is committed to minimizing any negative impact it may contribute to the natural environment. The purpose of this session is to bring together experts from around the world to discuss some of the sustainability aspects of using fibers in fiber-reinforced concrete (FRC) structures, including the role of fiber reinforcement in enhancing durability, optimized structure size, reduced weight, reduced footing dimensions and recyclability, to learn from real-life situations, and to lay the foundation for life-cycle engineering analysis with fiber-reinforced concrete. Presentation topics will cover the use of fibers for applications, including various precast elements and slabs-on-ground. The session will provide insight on the state of the art of the topic in the academia, in the industry, and in real-life applications.

By attending this session, attendees will be able to:
1. Name some of the sustainability aspects of using fibers in FRC structures;
2. Understand the advantages of using of fibers in FRC structures in terms of long-term performance, optimized structure size, reduced weight, reduced footing dimensions, and recyclability;
3. Recognize the advantages of using fibers for applications including various precast elements and slabs-on-ground; and
4. Identify opportunities to promote and expand the use of FRC to support sustainable development.
Wednesday, October 24, 2012
11:00 am - 1:00 pm

Fiber-Reinforced Concrete for Sustainable Structures (cont.)

Enhanced Sustainability with Ultra-High-Performance Fiber-Reinforced Concrete
11:00 am
Kay Wille, Assistant Professor, University of Connecticut, Storrs, CT

Short- and Long-Term Performance of ASTM C1609 Beams Reinforced with Steel and Macro-Synthetic Fibers in Precast Segment Tunnel Lining Design
11:25 am
Antonio Gallovich, Product Manager, Maccaferri, Inc., Williamsport, MD

Ultra-Thin Jointless Continuous Crack-Free and Maintenance-Free SFRC Slabs on Grade for Heavy-Duty Users
11:50 am
Xavier Destree, Consultant, ARCELORMITTAL, Bissen, Luxembourg; and Janis Kamars, Primekss

Fiber Reinforced Concrete in Support of Sustainable Infrastructure Systems
12:15 pm
Barzin Mobasher, Professor, Arizona State University, Tempe, AZ

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.

The Green Building Certification has approved this session for 2 GBCI CE hours. ACI is a provider of GBCI-approved courses for continuing education.
Joint KCI-ACI Session: International-Level Research, Practice, and Partnerships,
Part 3 of 3—Mega-structures

Sponsored by ACI Committee 059-06, International Partnerships & Publications

Session Moderator:  Thomas Kang
Assistant Professor
Seoul National University
Seoul, Korea

The session description and learning objectives for this session may be found in the Part 1 listing; see page 171.

Shear Connectors for Concrete Mega Column-to-Steel Belt Truss Connections in 123-Story Lotte World Tower  11:05 am
Honggun Park, Professor, Seoul National University, Seoul, Korea; Tae-Sung Eom, Catholic University of Daegu; and Hyeon Jong Hwang and Jangwoon Baek, Seoul National University

Structural Integrity, Robustness, ACI 318 and the Collapse of the Twin Towers on 9/11  11:25 am
W. Gene Corley, Senior Vice President, CTLGroup, Skokie, IL

Structural Application of BIM for Construction of Tall RC Buildings Focusing on Movement Prediction and Monitoring  11:45 am
Bohwan Oh, Chief Researcher, Daewoo Engineering and Construction Company Ltd., Suwon, Korea; and Taehun Ha and Sungho Lee, Daewoo Engineering and Construction Company Ltd.

Performance-Based Seismic Design of Tall Building: A World View  12:05 pm
Ronald Klemencic, President, Magnusson Klemencic Associates, Seattle, WA

Recent Advances in Seismic Design of RC Tall Buildings Using Ultra-High-Strength Materials in Taiwan  12:25 pm
Shyh-Jiann Hwang, Professor, National Taiwan University, Taipei, Taiwan ROC

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Natural Pozzolans—Renaissance of a Proven Technology, Part 2 of 2

DOMINION SOUTH

Sponsored by ACI Committee 232, Fly Ash and Natural Pozzolans in Concrete

Session Co-Moderators: Robert E. Neal
Technical Services Engineer
Lehigh Portland Cement Company
Richmond, VA

Prasad R. Rangaraju
Associate Professor
Clemson University
Clemson, SC

The session description and learning objectives for this session may be found in the Part 1 listing; see page 180.

Metakaolin in Binary and Ternary Concrete Mixtures:
Effects on Properties and Durability 11:00 am
R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada; and J. Michael Zeljkovic, University of Toronto

Highly Active Natural Volcanic Glass as Durability Enhancer Added in Concrete Mixes 11:20 am
Christos Dedeloudis, Development Director, S&B Industrial Minerals, Kifissia, Greece

21st Century Development of Natural Pozzolans in the Mountain West (U.S.) 11:40 am
Paul J. Tikalsky, Professor and Chair of Civil & Environmental Engineering, Oklahoma State University, Stillwater, OK

The Durability of Concrete Containing Ground Recycled Fiberglass as a Pozzolan 12:00 pm
Michael Thomas, Professor, University of New Brunswick, Fredericton, NB, Canada; and David E. Smith, Levelton Consultants

Influence of Fineness of Rice Husk Ash on Mechanical and Durability Properties of Concrete 12:30 pm
Prasad R. Rangaraju, Associate Professor, Clemson University, Clemson, SC; and Harish Kizhakkumodom Venkatanaraya, Clemson University

The American Institute of Architects (AIA) has approved this session for 2 Learning Units. ACI is an AIA/CES Registered Provider.
Thursday, October 25, 2012
8:00 am - 5:00 pm

✓ ACI Troubleshooting Concrete Construction

CIVIC NORTH

7:45 am Registration; coffee and pastries available

$597 Nonmember registration fee

$457 ACI National Member registration fee

$125 Full-time students (with proof of enrollment)

Speakers:

Kim Bashman
President
KB Engineering, LLC
Cheyenne, WY

Frank Kozeliski
Materials Engineer
Kozeliski Consulting, LLC
Gallup, NM

This is a 1-day seminar for contractors, design engineers, specifiers, government agencies, and material suppliers. This seminar will provide attendees with solutions to problems with concrete. The seminar will cover placing reinforcement, preventing most cracks, making functional construction joints, vibrating concrete properly, detecting delaminations, and identifying causes of deteriorating concrete. Complimentary publications include: ACI 301, “Specifications for Structural Concrete”; 302.IR, “Guide for Concrete Floor and Slab Construction”; 303R, “Guide to Cast-in-Place Architectural Concrete Practice”; 303.1, “Standard Specification for Cast-in-Place Architectural Concrete”; 308R, “Guide to Curing Concrete”; 309.2R, “Identification and Control of Visible Effects of Consolidation on Formed Concrete Surfaces”; and seminar lecture notes.

✓ = separate fee required

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ACI Board Committees and Chairs

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Use this form to track your attendance at ACI sessions. You must be a registered convention attendee to attend sessions. This form may be accepted by state boards that allow self-reporting of continuing education activities as evidence of participation. In most cases, 1 contact hour is equal to 1 Professional Development Hour (PDH). Check with your state board for acceptance criteria.

Instructions: Fill in your name, e-mail address, and telephone number below. Check off each session you attend. If a state where you are licensed requires a certificate of attendance, please record the PDH codes given throughout each session in the boxes provided. You must attend the entire session and sign this form to receive your certificate(s). After you have attended your final session, submit this form to the registration desk located in Sheraton Hall at the Sheraton Centre Toronto. You may also fax this form to ACI at 248-848-3701, or e-mail it to Mike Tholen (mike.tholen@concrete.org). You must attend the entire session and sign this form to receive your certificate(s). Total the number of PDH credits you earned for each day at the end of this form.

Name (please print): _______________________________________________________________

By my signature, I attest that I have attended the entire duration of each of the sessions indicated on this form:  ______________________________________________________________________   (signature)

E-mail address (please print): ________________________________________________________

Telephone number: _________________________________________________________________

If you are a licensed professional engineer in Florida and would like ACI to report your hours to the Florida state board or you are an architect and would like ACI to report your hours to AIA, please provide your license number below.

Florida PE No.: ________________________________________________________________

Architecture license No.: _______________________________________________________

<table>
<thead>
<tr>
<th>Saturday, October 20, 2012</th>
<th>PDH Codes for selected session:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 PM-5:00 PM (Select one session)................................. 4 PDH</td>
<td></td>
</tr>
<tr>
<td>Concrete Sustainability Forum and Panel Discussion (Fifth Anniversary)</td>
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<tr>
<th>Sunday, October 21, 2012</th>
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<tbody>
<tr>
<td>1:00 PM-3:00 PM (Select one session)................................. 2 PDH</td>
</tr>
<tr>
<td>Perspectives on Service Life (366)</td>
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<tr>
<td>Site Casting New Form: Inspiring Function to Respond (551/650C)</td>
</tr>
<tr>
<td>The Art of Designing Ductile Concrete in the Past 50 Years: The Impact of the PCA Book and Mete A. Sozen, Part 1 of 2 (318)</td>
</tr>
<tr>
<td>The Business Case for Social Media: How Social Media Can Build Your Individual and Professional Brand in the Construction Industry (MKTC/SYPAC)</td>
</tr>
</tbody>
</table>

| 3:30 PM-5:30 PM (Select one session)................................. 2 PDH |
| Emerging Technologies in the Concrete Industry (TTAG) |
| Placement of Epoxy Grout in an Industrial Environment (351) |
| Teaching Sustainability to Current and Future Engineers (330/236) |
| The Art of Designing Ductile Concrete in the Past 50 Years: The Impact of the PCA Book and Mete A. Sozen, Part 2 of 2 (318) |

| 8:00 PM-10:00 PM............................................................2 PDH |
| 123 Forum: Do We Know Enough to Manage and Mitigate ASR Deteriorations in New and Existing Concrete Structures? |
| Hot Topic Session |

<table>
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<tr>
<th>Monday, October 22, 2012</th>
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<tbody>
<tr>
<td>8:30 AM-10:30 AM (Select one session)............................ 2 PDH</td>
</tr>
<tr>
<td>Advancements in the Use of Building Information Modeling (BIM) Systems, Part 1 of 2 (ACI Ontario Chapter)</td>
</tr>
<tr>
<td>Portland-Limestone Cements: A Technology to Improve the Sustainability of Concrete (225)</td>
</tr>
<tr>
<td>Research in Progress, Part 1 of 2 (123)</td>
</tr>
<tr>
<td>Things They Don’t Teach You in School (S805)</td>
</tr>
</tbody>
</table>

| 11:00 AM-1:00 PM (Select one session)............................ 2 PDH |
| Advancements in the Use of Building Information Modeling (BIM) Systems, Part 2 of 2 (ACI Ontario Chapter) |
| Blast Testing for Structural Performance Verification (370) |
| Research in Progress, Part 2 of 2 (123) |
| UHPC—Experience and Developments, Part 1 of 2 (234/239/363) |

| 1:30 PM-3:30 PM (Select one session)............................ 2 PDH |
| Emerging Technologies, Part 1 of 2 (ACI Ontario Chapter) |
| Forming a Framework for Performance Based Seismic Design of Concrete Bridges, Part 1 of 2 (341/341D) |
| Reinforced Concrete Columns with High Strength Concrete and Steel Reinforcement, Part 1 of 2 (441) |
| Shrinkage Compensating Concrete—Past, Present, & Future, Part 1 of 2 (223) |
Session Attendance Tracking Form for the ACI Fall 2012 Convention
Toronto, ON, Canada • October 21-24, 2012

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

- Analysis and Design Issues in Liquid Containing Structures, Part 1 of 3 (350)
- Emerging Technologies, Part 2 of 2 (ACI Ontario Chapter)
- Forming a Framework for Performance Based Seismic Design of Concrete Bridges, Part 2 of 2 (341/341D)
- Reinforced Concrete Columns with High Strength Concrete and Steel Reinforcement, Part 2 of 2 (441)
- Shrinkage Compensating Concrete—Past, Present, & Future, Part 2 of 2 (223)

Tuesday, October 23, 2012
8:30 AM-10:30 AM (Select one session)............................ 2 PDH

- Applications of Acoustic Emission for Reinforced Concrete, Part 1 of 2 (228/437)
- Contractors' Day Session—Concrete’s Contribution to Infrastructure, Part 1 of 3 (ACI Ontario Chapter)
- Means and Methods of Evaluating Reinforced Concrete Structures (E702)
- The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 1 of 3 (231/130/213)

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

- Applications of Acoustic Emission for Reinforced Concrete, Part 2 of 2 (228/437)
- Machine Foundations, Part 1 of 2 (351)
- UHPC—Experience and Developments, Part 2 of 2 (234/239/363)

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

- Analysis and Design Issues in Liquid Containing Structures, Part 2 of 3 (350)
- Contractors’ Day Session—Forming our Future: Innovations and Advancements in Concrete Forming, Part 2 of 3 (ACI Ontario Chapter)
- Open Paper Session, Part 1 of 2 (332)
- The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 2 of 3 (231/130/213)

4:00 PM-5:30 PM (Select one session).............................. 1.5 PDH

- Contractors’ Day Session—Forming our Future: Innovations and Advancements in Concrete Forming, Part 3 of 3 (ACI Ontario Chapter)

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

- Analysis and Design Issues in Liquid Containing Structures, Part 3 of 3 (350)
- Joint KCI-ACI Session: International-Level Research, Practice, Partnerships, Part 1 of 3—Historical and Innovative Perspectives (IC)
- Machine Foundations, Part 2 of 2 (351)
- Open Paper Session, Part 2 of 2 (332)
- The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 3 of 3 (231/130/213)

Wednesday, October 24, 2012
8:30 AM-10:30 AM (Select one session)............................ 2 PDH

- Joint KCI-ACI Session: International-Level Research, Practice and Partnerships, Part 3 of 3—Hi-Performance Technologies (IC)
- Natural Pozzolans—Renaissance of a Proven Technology, Part 1 of 2 (232)
- Sustainability of Concrete Pavements (325/327/330)

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

- Contrasting Approaches to Blast-Resistant Design for Differing Contexts (370)
- Fiber-Reinforced Concrete for Sustainable Structures (544)
- Joint KCI-ACI Session: International-Level Research, Practice and Partnerships, Part 3 of 3—Mega-structures (IC)
- Natural Pozzolans—Renaissance of a Proven Technology, Part 2 of 2 (232)

Daily PDH Totals:
Total completed on Saturday, 10/20/12
Total completed on Sunday, 10/21/12
Total completed on Monday, 10/22/12
Total completed on Tuesday, 10/23/12
Total completed on Wednesday, 10/24/12
Total number of PDHs completed

Please submit this form to the registration desk, located in the Sheraton Hall at the Sheraton Centre Toronto, at the conclusion of the final session you attend. You may also fax this form to ACI at 248-848-3701, or e-mail to Mike Tholen (mike.tholen@concrete.org)

The deadline to submit this form to ACI is November 12, 2012.

You will receive your certificate(s) by December 3, 2012. Please ensure you have filled out the correct e-mail address on this form, as that is where your certificate(s) will be sent.
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April 14-18, 2013  
Hilton & Minneapolis Convention Center, Minneapolis, MN

**Fall 2013**  
Innovation in Conservation: The Rise of Phoenix  
October 20-24, 2013  
Hyatt & Phoenix Convention Center Phoenix, AZ

**Spring 2014**  
March 23-27, 2014  
Grand Sierra Resort Reno, NV

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