ACI Fall 2012 Convention Program Book

Forming Our Future

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

Toronto photos courtesy of Doug Brown


SPRING
2013
Twin Cities
Responsibility in
Concrete Construction
Save the Date: April 14th-18th
Hilton & Minneapolis
Convention Center
aci

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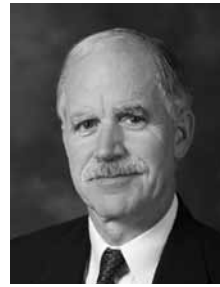
ACI Fall 2012 Convention

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

American Concrete Institute Board of Direction

ACI President's Welcome



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 · PREMIER MINISTRE

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

Ontario

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

Ontario

Premier of Ontario - Premier ministre de l'Ontario

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.

Dalton McGuinty
Premier of Ontario

CITY OF TORONTO

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

ACS Manufacturing Corporation

Build on our credentials

Advanced Construction Technology Services

Ash Grove Cement Company

Ashford Formula

Baker Concrete Construction, Inc.

Barrier-1 Inc.

The Chemical Company

BASF Corporation

BCS

Buzzi Unicem USA

Cantera Concrete Company

CECO Concrete Construction

Changzhou Jianlian Reinforcing Bar Conjunction Co., Ltd.

CHRYSO, Inc.

Concrete Reinforcing Steel Institute

CTLGroup

Dayton Superior

The Euclid Chemical Co.

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Lafarge North America

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Meadow Burke

W. R. Meadows, Inc.

Metromont Corporation

Mintz Levin

Municipal Testing

North S.Tarr Concrete Consulting PC

Operating Engineers Training Trust

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ACI Sustaining Members

Pacific Structures

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Penetron International Ltd.

STRUCTURAL

PGESCo

Structural Services, Inc.

Portland Cement Association

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Westroc, Inc.

Convention Sponsors

Sponsors are listed as of 9/19/12.

Special Convention Sponsor

ACI Ontario Chapter

Platinum Sponsor

Ready Mixed Concrete Association of Ontario

Gold Sponsors

Baker Concrete Construction
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The Euclid Chemical Company
Geneq, Inc.
Germann Instruments, Inc.
Giatec Scientific, Inc.
Geographical Survey Systems, Inc. (GSSI)
Grace Construction Products
HCM Group
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M&L Testing Equipment, Inc.
MAPEI, Inc.
Max Frank (Canada), Inc.
National Concrete Accessories Company, Inc.
Ontario Cast-in-Place Concrete Development Council
Ontario General Contractors Association
Peri Formwork Systems, Inc.
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STRUCTURAL
Tekla, Inc.

Titanium Sponsors

Carpenters & Allied Workers Local 27
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Yolles: A CH2M Hill Company

Convention Sponsors

Sponsors are listed as of 9/19/12.

Bronze Sponsors

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Copper Sponsors

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ACI Georgia Chapter
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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

Lanyard Sponsor

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
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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

General Information

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 **SHERATON HALL**

Beverages are available courtesy of ACI during the following hours:

Saturday	Soda:	2:00 pm - 6:00 pm
Sunday-Wednesday	Coffee:	7:00 am - 10:00 am
Sunday-Tuesday	Soda:	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 **SHERATON HALL**

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 **SHERATON HALL**

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 **ACI Bookstore—SHERATON HALL**

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 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 **LOBBY**
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
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

General Information

SESSION ATTENDANCE TRACKING FORM

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

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**

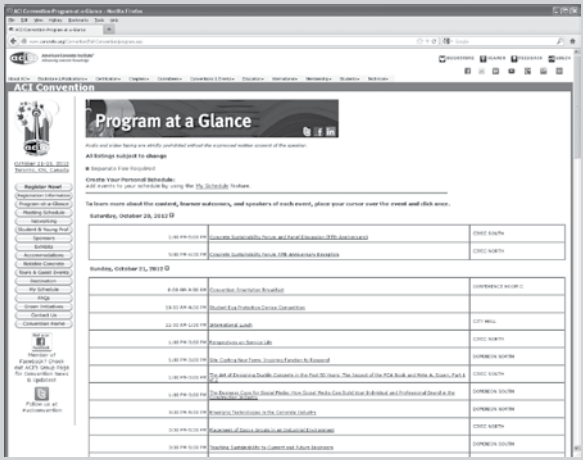
Responsibility in Concrete Construction

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.

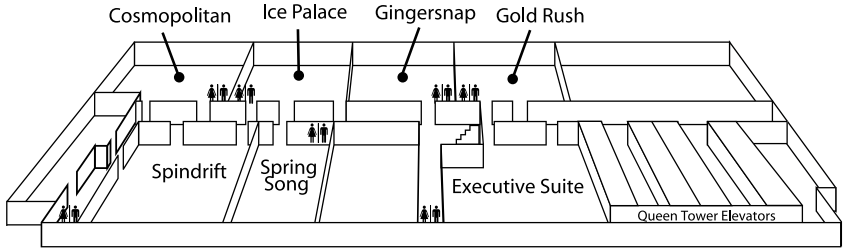
Where's That Meeting Room?

Room Name	Location
Carleton	Mezzanine
Churchill	Second Floor
City Hall	Second Floor
Civic North	Second Floor
Civic South	Second Floor
Club Boardroom	Forty-Third Floor
Conference B	Mezzanine
Conference C	Mezzanine
Conference D	Mezzanine
Conference E	Mezzanine
Conference F	Mezzanine
Conference G	Mezzanine
Conference H	Mezzanine
Cosmopolitan	Fourth Floor
Dominion North	Second Floor
Dominion South	Second Floor
Dufferin	Second Floor
Eligin	Second Floor
Essex	Mezzanine
Executive Suite	Fourth Floor
Gingersnap	Fourth Floor
Gold Rush	Fourth Floor
Grand Centre	Lower Concourse
Grand East	Lower Concourse
Grand West	Lower Concourse
Huron	Second Floor
Ice Palace	Fourth Floor
Kenora	Second Floor
Kent	Second Floor
Lower Concourse Foyer	Lower Concourse
Osgoode East	Lower Concourse
Osgoode West	Lower Concourse
Oxford	Mezzanine
Peel	Mezzanine
Pinnacle	Forty-Third Floor
Sheraton Hall	Lower Concourse
Simcoe	Second Floor
Spindrift	Fourth Floor
Spring Song	Fourth Floor
Wentworth	Second Floor
Windsor East	Mezzanine
Windsor West	Mezzanine
York	Mezzanine

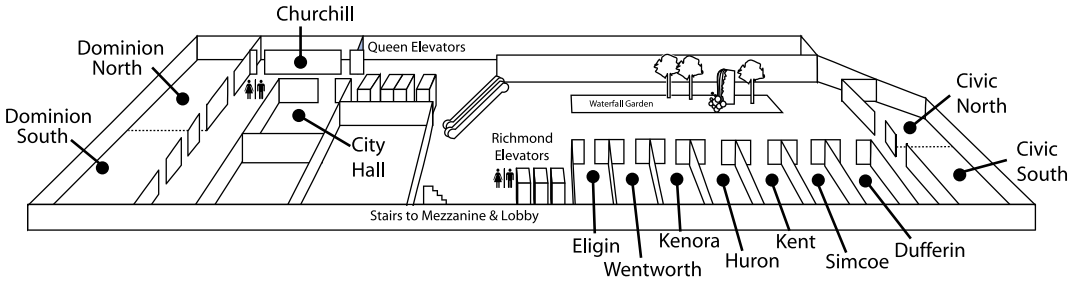
Sheraton Centre Hotel Floorplan

(Pinnacle & Club Boardroom are located on the 43rd Floor)

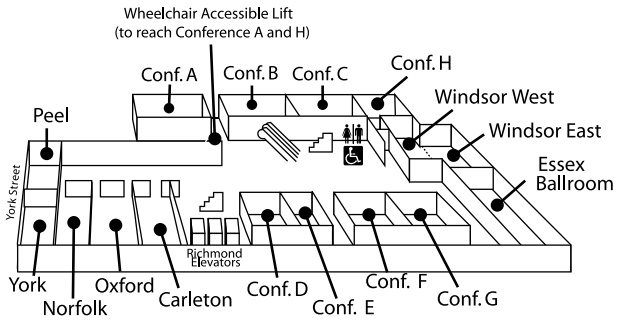
4th Floor



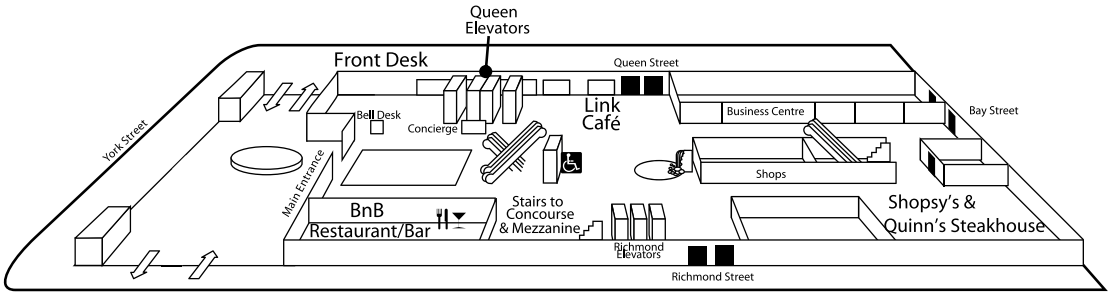
2nd Floor



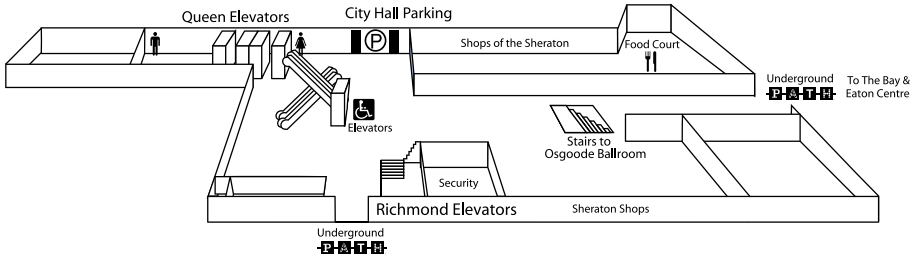
Mezzanine



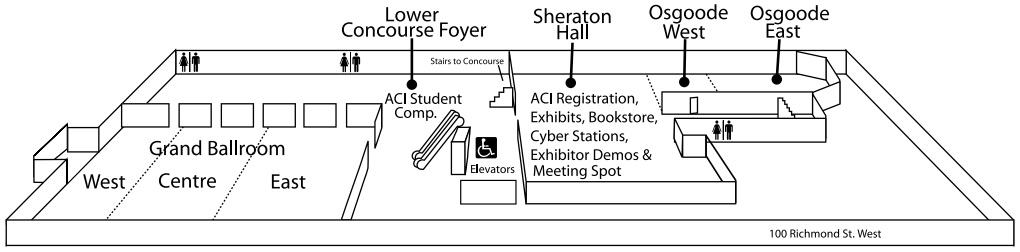
Lobby



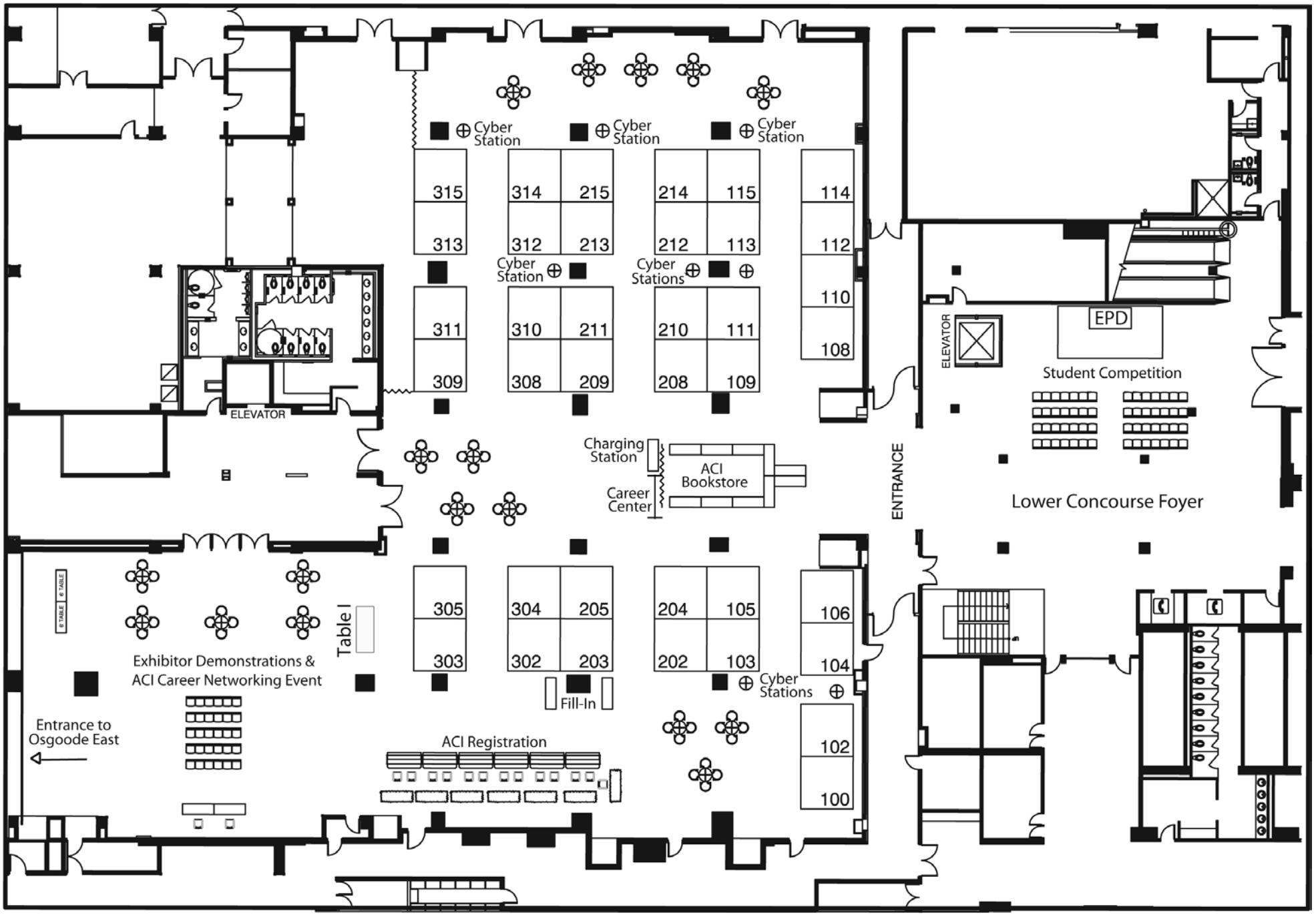
Concourse



Lower Concourse



Sheraton Exhibit Hall



Exhibitors

Exhibitor Listing as of 9/19/12

Exhibits **SHERATON HALL**

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. **Booth #314**

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 **Booth #109**

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 **Booth #110**

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**.

Exhibitors

Exhibitor Listing as of 9/19/12

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**.

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**.

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**.

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**.

Exhibitors

Exhibitor Listing as of 9/19/12

CSA Group **Table #1**

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**.

Doka **Booth #315**

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**.

ERICO **Booth #203**

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**.

The Euclid Chemical Company **Booth #304**

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**.

Exhibitors

Exhibitor Listing as of 9/19/12

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**.

Exhibitors

Exhibitor Listing as of 9/19/12

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, Stremaform, Tubbox, and Zamdrain), reinforcement innovations (Egcodorn, Stabox, and UKorb), and waterstop 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**.

Exhibitors

Exhibitor Listing as of 9/19/12

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**.

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**.

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**.

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**.

Exhibitors

Exhibitor Listing as of 9/19/12

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**.

Exhibitors

Exhibitor Listing as of 9/19/12

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**.

Exhibitors

Exhibitor Listing as of 9/19/12

Exhibitor Demonstrations **OSGOODE WEST**

Monday, October 22, 2012

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

Tuesday, October 23, 2012

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

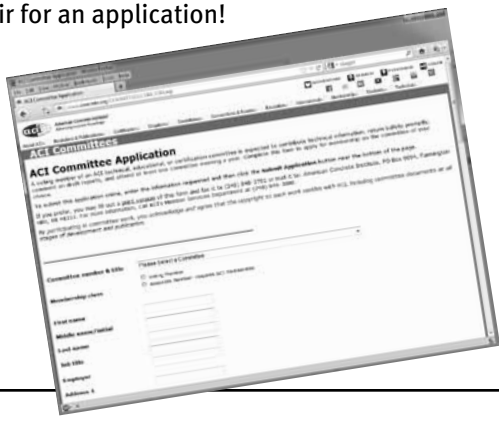
JOIN A COMMITTEE!

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

ACI's technical committees are classified as follows:
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	CONFERENCE G

Saturday, October 20, 2012

7:00 am - 6:00 pm

TAC	Technical Activities M2	CONFERENCE G

9:00 am - 6:00 pm

347	Formwork M1	CONFERENCE 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	CONFERENCE 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	CONFERENCE 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	SHERATON HALL
	Afternoon Soda Break	SHERATON HALL

4:00 pm - 6:00 pm

562-A	Eval, Repair & Rehab - Life Safety	CONFERENCE F
562-C	Eval, Repair & Rehab - Structural Analysis M1	WINDSOR EAST

Daily Program

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Saturday, October 20, 2012 (cont.)

5:00 pm - 6:30 pm

	Concrete Sustainability Forum Fifth Anniversary Reception *(Registered Forum attendees only)*	ESSEX

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

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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 t[illegible] Hillebrand	
	Estate[illegible]	DEPART MAIN LOBBY

Cancelled

Daily Program

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

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Sunday, October 21, 2012 (cont.)

9:00 am - 12:00 pm

546-C	Repair - Guide	ELGIN
551	Tilt Up	HURON

9:00 am - 5:00 pm

132	Responsibility	KENORA

9:30 am - 11:00 am

341-B	Equake Res Brdgs - Pier Walls	YORK
506-A	Shotcreting - Evaluation	GOLD RUSH

9:30 am - 12:30 pm

228	Nondestructive Testing	GRAND EAST

10:00 am - 10:30 am

549-TG2	Report on Thin Reinforced Cementitious Products/ Analysis & Design Tools	PEEL

10:00 am - 11:30 am

E701	Materials for Concrete Construction	DUFFERIN
440-TG2	FRP - Task Group Repair Material Spec	ESSEX

10:00 am - 12:00 pm

IC-Part	International Partnerships & Publications	CONFERENCE C
562-B	Eval, Repair & Rehab - Loads	SIMCOE

10:00 am - 1:00 pm

421	Reinf Slabs	PINNACLE

10:00 am - 4:00 pm

	★Guest Lounge	CHURCHILL

10:00 am - 5:00 pm

	Art of Concrete Student Competition	OSGOODE WEST

10:30 am - 12:00 pm

376-01	Steering Subcommittee	KENT

10:30 am - 1:30 pm

445-A	Shear & Torsn - Strut & Tie	SPINDRIFT

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 Brdgs - 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.)

12:30 pm - 4:30 pm

301-B	Spec - Formwork & Reinforcement	CONFERENCE C
301-H	Spec - Tilt-Up Constr & Arch Conc	COSMOPOLITAN

1:00 pm - 2:30 pm

369	Seismic Rehab M1	ICE PALACE
533	Precast Panels	WINDSOR WEST

1:00 pm - 3:00 pm

351-C	Equip Fdns - Dynamic Foundations	GINGERSNAP
376-B	Materials Subcommittee	KENT
445-C	Shear & Torsn - Punching Shear	WINDSOR EAST

1:00 pm - 3:00 pm - *Sessions*

	Perspectives on Service Life	CIVIC NORTH
	Site Casting New Form: Inspiring Function to Respond	DOMINION NORTH
	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
	The Business Case for Social Media: How Social Media Can Build Your Individual and Professional Brand in the Construction Industry	DOMINION SOUTH

1:00 pm - 3:30 pm

341-D	Perf Based Seismic Design	YORK

1:00 pm - 4:00 pm

423-E	Prestress - Losses	DUFFERIN

1:00 pm - 5:00 pm

301-C	Spec - Placing Consolidating & Curing	GOLD RUSH
301-D	Spec - Lightweight & Massive Concrete	SPRING SONG
301-G	Spec - Shrink Comp Conc & Ind Floor Slabs	CARLETON
336	Footings	CONFERENCE D
350-E	Env Str - Precast/Prestressed	CONFERENCE B
562	Eval, Repair & Rehab	PROVINCIAL

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

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 — SHERATON HALL

Exhibits — SHERATON HALL

Daily Program

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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.)

1:00 pm - 2:30 pm

C631	Conc Transportation Const Insp	HURON
ISO/TC 71	ISO/TC 71 Advisory Cmte	KENT

1:00 pm - 3:00 pm

C660	Shotcrete Nozzleman Cert	KENORA
228-A	NDT Technician Certification	CARLETON
364	Rehabilitation	SIMCOE
440-H	FRP - Reinforced Concrete	OSGOODE EAST

1:00 pm - 3:30 pm

375	Design for Wind Loads	GINGERSNAP

1:00 pm - 4:00 pm

225	Hydraulic Cements	CONFERENCE E
232	Fly Ash & Natural Pozzolans	CONFERENCE B
376	RLG Containment Structures	PEEL

1:00 pm - 5:00 pm

301	Specifications M3	PINNACLE
362	Parking Structures	SPINDRIFT

1:30 pm - 3:30 pm

S806	Young Professional Activities	SPRING SONG

1:30 pm - 3:30 pm - *Sessions*

Emerging Technologies, Part 1 of 2	DOMINION SOUTH
Forming a Framework for Performance-Based Seismic Design of Concrete Bridges, Part 1 of 2	CIVIC SOUTH
Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement, Part 1 of 2	DOMINION NORTH
Shrinkage-Compensating Concrete—Past, Present, and Future, Part 1 of 2	CIVIC NORTH

Daily Program

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Monday, October 22, 2012 (cont.)

2:00 pm - 3:30 pm

231	Early Age	CONFERENCE C
318-S	Spanish Translation	EXECUTIVE
348	Safety	CONFERENCE G
564-FM	Evaluation, Repair and Rehabilitation of Nuclear Concrete Structures	WENTWORTH

2:00 pm - 5:00 pm

CAC	Chapter Activities	ICE PALACE
MKTC	Marketing	WINDSOR EAST
130	Sustainability M1	GRAND CENTRE
212	Chemical Admixtures	COSMOPOLITAN
307	Chimneys	WINDSOR WEST

2:00 pm - 6:00 pm

369	Seismic Rehab M2	GOLD RUSH
445	Shear & Torsion	CONFERENCE F

2:00 pm - 6:30 pm

360	Slabs on Ground	GRAND EAST

2:30 pm - 4:30 pm

351	Equip Foundations	NORFOLK
548-B	Polymers - Adhesives	KENT

2:30 pm - 5:00 pm

370	Blast and Impact Load Effects	HURON

3:00 pm - 5:00 pm

506-F	Shotcreting - Underground	CARLETON

3:00 pm - 6:00 pm

440-F	FRP - Repair Strengthening	OSGOODE EAST

3:30 pm - 5:00 pm

	★Guest Social	ESSEX
211-P	Guide for Selecting Proportions for Pumpable Concrete	SPRING SONG
214	Strength Tests M2	KENORA
435	Deflection	CONFERENCE C
446	Fracture Mechanics	GINGERSNAP

Daily Program

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Monday, October 22, 2012 (cont.)

3:30 pm - 5:30 pm

239	Ultra-High-Performance Concrete	SIMCOE

3:30 pm - 6:00 pm

544-D	FRC - Structural Uses	EXECUTIVE

3:30 pm - 6:30 pm

350-J	Env Str - Education	CONFERENCE G

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 Bridges, Part 2 of 2	CIVIC SOUTH
	Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement, Part 2 of 2	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

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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Monday, October 22, 2012 (cont.)

6:00 pm - 7:00 pm

	Women in ACI Reception	CHURCHILL

6:30 pm - 8:00 pm

	✓Hope & Schupack Honorary Reception	ESSEX

Tuesday, October 23, 2012

6:30 am - 8:30 am

TTAG	Technology Transfer Advisory Group	ICE PALACE

7:00 am - 8:30 am

TRRC	TAC Repair & Rehab	CONFERENCE F

7:00 am - 9:00 am

	Disaster Response Task Group	CONFERENCE E

7:00 am - 10:00 am

	★Guest Hospitality	CITY HALL
	Coffee Break	SHERATON HALL

7:00 am - 6:00 pm

	Speaker Ready Room	OXFORD

7:30 am - 9:00 am

130-G	Education/Certification	HURON

7:30 am - 5:00 pm

	ACI Registration	SHERATON HALL

8:00 am - 9:00 am

IJBRC	Intl Joints & Bearings Research	GINGERSNAP

8:00 am - 9:30 am

230	Soil Cement	YORK

8:00 am - 10:00 am

211-C	Proportioning - No Slump	WINDSOR EAST
238	Workability of Fresh Concrete	CONFERENCE B
444	Experimental Analysis	PEEL

8:00 am - 11:00 am

201	Durability	GRAND CENTRE
440	Fiber-Reinforced Polymer	GRAND WEST
522	Pervious Concrete	SIMCOE/DUFFERIN

8:00 am - 12:00 pm

EAC	Educational Activities M2	KENORA

Daily Program

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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

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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[illegible] Cancelled	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

Daily Program

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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/DUFFERIN
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

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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

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Tuesday, October 23, 2012 (cont.)

1:30 pm - 6:00 pm

318-A	General Concrete Constr	ELGIN
318-C	Serviceability/Safety	EXECUTIVE
318-H	Seismic Provisions	KENT
318-R	Code Reorganization	GOLD RUSH

2:00 pm - 3:30 pm

118	Computers	GINGERSNAP

2:00 pm - 4:00 pm

130-D	Rating Systems/Sustainabilty Tools	HURON
234	Silica Fume	CLUB BOARDROOM

2:00 pm - 5:00 pm

CPC	Certification Programs	CONFERENCE G
222	Corrosion	WENTWORTH
223	Shrinkage Compensating	SPINDRIFT
229	Controlled Low Strength	CONFERENCE B
233	Slag Cement	CONFERENCE C
235	Electronic Data Exchange	WINDSOR EAST

3:00 pm - 4:00 pm

236-TG1	Advanced Analysis Techniques for Concrete	PEEL

3:00 pm - 5:00 pm

CC	Convention Committee M2	PINNACLE
131	BIM	CONFERENCE F
211-N	Proportioning with Ground Limestone and Material Fillers	YORK
372	Tanks Wrapped Wire/Strand	KENORA

3:00 pm - 5:30 pm

544	Fiber-Reinforced Concrete	OSGOODE EAST

3:30 pm - 5:00 pm

363-A	High-Strength Lightweight Concrete	GINGERSNAP

3:30 pm - 5:30 pm

325	Pavements	SIMCOE/DUFFERIN

4:00 pm - 5:30 pm

308/213	Guide on Internal Curing	PEEL

Daily Program

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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 — CITY HALL

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 — GRAND CENTRE

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

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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

Daily Program

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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

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
ACIFdn	ACI Foundation	Wed	9:00 am - 12:00 pm	KENORA
BOD	Board of Direction	Thu	10:00 am - 5:00 pm	CIVIC SOUTH
C601-B	Concrete Quality Technical Mgr	Wed	10:00 am - 12:30 pm	CONFERENCE D
C601-C	Masonry Testing Technician	Wed	8:30 am - 10:00 am	KENT
C610	Field Technician Cert	Mon	8:30 am - 11:00 am	CONFERENCE F
C620	Laboratory Tech Cert	Tue	8:30 am - 10:00 am	CONFERENCE C
C630	Construction Inspector Cert	Tue	10:00 am - 11:30 am	PEEL
C631	Conc Transportation Const Insp	Mon	1:00 pm - 2:30 pm	HURON
C640	Craftsman Cert	Sun	11:00 am - 1:00 pm	CONFERENCE D
C650	Tilt-Up Constructor Cert	Sun	7:30 am - 9:00 am	COSMOPOLITAN
C660	Shotcrete Nozzleman Cert	Mon	1:00 pm - 3:00 pm	KENORA
C680	Adhesive Anchor Installer - Joint CRSI	Tue	12:30 pm - 2:00 pm	GINGERSNAP
CAC	Chapter Activities	Mon	2:00 pm - 5:00 pm	ICE PALACE
CC	Convention Committee M2	Tue	3:00 pm - 5:00 pm	PINNACLE
CLC	Construction Liaison	Sun	8:00 am - 10:30 am	KENT
CPC	Certification Programs	Tue	2:00 pm - 5:00 pm	CONFERENCE G
CRC	Concrete Research Council	Tue	11:00 am - 1:00 pm	SIMCOE/ DUFFERIN
E701	Materials for Concrete Construction	Sun	10:00 am - 11:30 am	DUFFERIN
E702	Designing Concrete Structures	Mon	5:00 pm - 6:30 pm	GINGERSNAP
E703	Concrete Construction Practices	Mon	5:00 pm - 7:00 pm	WINDSOR EAST
E706	Repair Application Procedures	Sun	8:00 am - 10:00 am	DUFFERIN

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
E707	Specification Education	Tue	11:30 am - 1:00 pm	PEEL
EAC	Educational Activities M1	Sat	1:00 pm - 5:00 pm	CONFERENCE D
EAC	Educational Activities M2	Tue	8:00 am - 12:00 pm	KENORA
HTC	Hot Topic	Sun	11:30 am - 1:00 pm	SPRING SONG
IC	International Advisory Committee	Tue	9:00 am - 12:00 pm	PINNACLE
IC-Conf	International Conferences	Mon	7:15 am - 8:30 am	GINGERSNAP
IC-Part	International Partnerships & Publications	Sun	10:00 am - 12:00 pm	CONFERENCE C
IJBRC	Intl Joints & Bearings Research	Tue	8:00 am - 9:00 am	GINGERSNAP
Intl-Cert	International Certification	Sun	3:30 pm - 5:00 pm	YORK
ISO/TC 71	ISO/TC 71 Advisory Cmte	Mon	1:00 pm - 2:30 pm	KENT
MEMC	Membership	Sun	8:30 am - 11:30 am	WINDSOR WEST
MKTC	Marketing	Mon	2:00 pm - 5:00 pm	WINDSOR EAST
PUBC	Publications	Mon	8:30 am - 10:00 am	GINGERSNAP
S801	Student Activities	Sun	8:00 am - 10:00 am	PINNACLE
S802	Teaching Methods and Educational Materials	Mon	8:30 am - 9:30 am	COSMOPOLITAN
S805	Collegiate Concrete Council	Sun	4:00 pm - 5:00 pm	DUFFERIN
S806	Young Professional Activities	Mon	1:30 pm - 3:30 pm	SPRING SONG
SYPAC	Student & Young Professional Activities Committee	Wed	7:00 am - 9:00 am	KENORA
TAC	Technical Activities M1	Fri	6:30 pm - 9:00 pm	CONFERENCE G
TAC	Technical Activities M2	Sat	7:00 am - 6:00 pm	CONFERENCE G

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
TAC	Technical Activities M3	Sun	7:00 am - 2:00 pm	CONFERENCE G
TACRG1	TAC Review Group 1	Sun	8:00 am - 11:00 am	CONFERENCE E
TACRG2	TAC Review Group 2	Sun	8:00 am - 11:00 am	CONFERENCE D
TACRG3	TAC Review Group 3	Sun	8:00 am - 11:00 am	CONFERENCE F
TCSC	TAC Construction Standards Committee	Wed	7:00 am - 10:00 am	CONFERENCE B
TRRC	TAC Repair & Rehab	Tue	7:00 am - 8:30 am	CONFERENCE F
TTAG	Technology Transfer Advisory Group	Tue	6:30 am - 8:30 am	ICE PALACE
117	Tolerances	Tue	8:30 am - 11:30 am	WENTWORTH
118	Computers	Tue	2:00 pm - 3:30 pm	GINGERSNAP
120	History	Tue	1:30 pm - 3:00 pm	CONFERENCE F
121	Quality Assurance	Sun	3:00 pm - 5:00 pm	WINDSOR EAST
123	Research	Sun	4:00 pm - 5:30 pm	ELGIN
124	Aesthetics	Mon	12:30 pm - 2:00 pm	DUFFERIN
130	Sustainability M1	Mon	2:00 pm - 5:00 pm	GRAND CENTRE
130	Sustainability M2	Tue	11:00 am - 1:00 pm	GRAND WEST
130-A	Materials	Mon	8:30 am - 10:00 am	OSGOODE EAST
130-B	Production/ Transport/ Construction	Mon	1:00 pm - 2:00 pm	WENTWORTH
130-D	Rating Systems/ Sustainability Tools	Tue	2:00 pm - 4:00 pm	HURON
130-E	Design/ Specifications/ Codes/Regulations	Tue	9:30 am - 11:00 am	YORK
130-F	Social Issues	Sun	12:30 pm - 2:00 pm	PEEL
130-G	Education/ Certification	Tue	7:30 am - 9:00 am	HURON

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
131	BIM	Tue	3:00 pm - 5:00 pm	CONFERENCE F
132	Responsibility	Sun	9:00 am - 5:00 pm	KENORA
201	Durability	Tue	8:00 am - 11:00 am	GRAND CENTRE
201-A	Durability - Sulfate Attack	Sun	11:00 am - 12:30 pm	COSMOPOLITAN
201-C	Durability - Condition Report	Tue	1:00 pm - 3:00 pm	KENORA
201-D	Durability - Oversight Committee	Mon	11:30 am - 1:00 pm	CARLETON
207	Mass Concrete	Mon	10:00 am - 1:00 pm	EXECUTIVE
209	Creep & Shrinkage	Mon	8:30 am - 11:30 am	GOLD RUSH
211	Proportioning	Wed	8:30 am - 11:30 am	SIMCOE/ DUFFERIN
211-A	Proportioning - Editorial	Tue	10:00 am - 12:00 pm	CARLETON
211-C	Proportioning - No Slump	Tue	8:00 am - 10:00 am	WINDSOR EAST
211-E	Proportioning - Evaluation	Tue	11:30 am - 1:00 pm	SPRING SONG
211-F	Proportioning - Submittal	Tue	1:00 pm - 3:00 pm	SPRING SONG
211-I	Assessing Aggregate Gradation	Tue	1:00 pm - 3:00 pm	YORK
211-N	Proportioning with Ground Limestone and Material Fillers	Tue	3:00 pm - 5:00 pm	YORK
211-P	Guide for Selecting Proportions for Pumpable Concrete	Mon	3:30 pm - 5:00 pm	SPRING SONG
212	Chemical Admixtures	Mon	2:00 pm - 5:00 pm	COSMOPOLITAN
213	Lightweight	Mon	12:30 pm - 2:00 pm	WINDSOR WEST
213-TG1	Lightweight - Editorial TG	Mon	11:30 am - 12:30 pm	CITY HALL
214	Strength Tests M1	Mon	12:00 pm - 2:00 pm	CONFERENCE C
214	Strength Tests M2	Mon	3:30 pm - 5:00 pm	KENORA

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
215	Fatigue	Sun	2:00 pm - 4:00 pm	WENTWORTH
216	Fire Resistance	Mon	10:00 am - 1:00 pm	KENT
221	Aggregates	Sun	11:30 am - 1:00 pm	WINDSOR EAST
222	Corrosion	Tue	2:00 pm - 5:00 pm	WENTWORTH
223	Shrinkage Compensating	Tue	2:00 pm - 5:00 pm	SPINDRIFT
223-C	Shrinkage Compensating - Constr	Tue	1:00 pm - 2:00 pm	SPINDRIFT
224	Cracking	Sun	2:30 pm - 5:00 pm	WINDSOR WEST
225	Hydraulic Cements	Mon	1:00 pm - 4:00 pm	CONFERENCE E
228	Nondestructive Testing	Sun	9:30 am - 12:30 pm	GRAND EAST
228-A	NDT Technician Certification	Mon	1:00 pm - 3:00 pm	CARLETON
229	Controlled Low Strength	Tue	2:00 pm - 5:00 pm	CONFERENCE B
230	Soil Cement	Tue	8:00 am - 9:30 am	YORK
231	Early Age	Mon	2:00 pm - 3:30 pm	CONFERENCE C
232	Fly Ash & Natural Pozzolans	Mon	1:00 pm - 4:00 pm	CONFERENCE B
232-A	Fly Ash - Use of Nat Pozzolans	Mon	10:00 am - 1:00 pm	CONFERENCE B
233	Slag Cement	Tue	2:00 pm - 5:00 pm	CONFERENCE C
234	Silica Fume	Tue	2:00 pm - 4:00 pm	CLUB BOARDROOM
235	Electronic Data Exchange	Tue	2:00 pm - 5:00 pm	WINDSOR EAST
236	Material Science	Mon	4:30 pm - 5:30 pm	CITY HALL
236-D	Material Science - Nanotechnology of Concrete M1	Sun	3:30 pm - 5:00 pm	ICE PALACE
236-D	Material Science - Nanotechnology of Concrete M2	Tue	1:00 pm - 3:00 pm	PEEL

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
236-TG1	Advanced Analysis Techniques for Concrete	Tue	3:00 pm - 4:00 pm	PEEL
236-TG2	Sustainability Engineered by Material Science	Tue	11:30 am - 12:30 pm	GRAND EAST
236-TG4	Modeling and Simulation Methods	Tue	10:30 am - 12:30 pm	GINGERSNAP
237	Self-Consolidating Concrete	Mon	8:15 am - 11:00 am	GRAND CENTRE
237-TG1	Self-Consolidating Concrete Task Group	Sun	12:00 pm - 2:00 pm	ELGIN
238	Workability of Fresh Concrete	Tue	8:00 am - 10:00 am	CONFERENCE B
239	Ultra-High-Performance Concrete	Mon	3:30 pm - 5:30 pm	SIMCOE
301	Specifications M1	Sat	12:00 pm - 4:00 pm	CONFERENCE F
301	Specifications M2	Sun	8:30 am - 12:00 pm	EXECUTIVE
301	Specifications M3	Mon	1:00 pm - 5:00 pm	PINNACLE
301-A	Spec - Gen Req, Definitions, & Tolerances	Mon	8:30 am - 12:00 pm	CONFERENCE D
301-B	Spec - Formwork & Reinforcement	Sun	12:30 pm - 4:30 pm	CONFERENCE C
301-C	Spec - Placing Consolidating & Curing	Sun	1:00 pm - 5:00 pm	GOLD RUSH
301-D	Spec - Lightweight & Massive Concrete	Sun	1:00 pm - 5:00 pm	SPRING SONG
301-E	Spec - PostTensioned Concrete	Sun	3:00 pm - 5:00 pm	CONFERENCE E
301-F	Spec - Precast Concrete Panels	Mon	9:30 am - 12:30 pm	COSMOPOLITAN
301-G	Spec - Shrink Comp Conc & Ind Floor Slabs	Sun	1:00 pm - 5:00 pm	CARLETON
301-H	Spec - Tilt-Up Constr & Arch Conc	Sun	12:30 pm - 4:30 pm	COSMOPOLITAN
301-SC	Spec - Steering Committee	Sun	7:00 am - 8:30 am	PEEL

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
302	Floor Construction	Mon	8:30 am - 1:00 pm	GRAND EAST
303	Architectural CIP	Wed	8:30 am - 10:30 am	CONFERENCE C
304	Measuring/Mix/ Trans/Placing	Mon	11:30 am - 1:00 pm	OSGOODE EAST
305	Hot Weather	Sun	2:00 pm - 4:00 pm	ELGIN
306	Cold Weather	Tue	8:30 am - 11:30 am	ELGIN
307	Chimneys	Mon	2:00 pm - 5:00 pm	WINDSOR WEST
308	Curing	Wed	2:00 pm - 5:00 pm	CONFERENCE F
308/213	Guide on Internal Curing	Tue	4:00 pm - 5:30 pm	PEEL
308-A	Curing - Guide	Wed	10:30 am - 1:00 pm	CONFERENCE F
309	Consolidation	Sun	3:00 pm - 5:00 pm	GINGERSNAP
310	Decorative Concrete	Sun	3:00 pm - 5:30 pm	EXECUTIVE
310-TG1	Curing Decorative Concrete	Sun	2:00 pm - 3:00 pm	CONFERENCE E
311	Inspection	Mon	8:30 am - 10:00 am	DUFFERIN
314	Simplified Design Buildings	Sun	8:30 am - 11:30 am	GINGERSNAP
315	Detailing	Sun	2:00 pm - 5:00 pm	PINNACLE
315-B	Detailing - Constructibility	Sun	8:30 am - 11:30 am	WINDSOR EAST
318	Building Code	Wed	9:00 am - 6:00 pm	GRAND CENTRE
318-A	General Concrete Constr	Tue	1:30 pm - 6:00 pm	ELGIN
318-B	Reinforcement & Development M1	Mon	10:00 am - 1:00 pm	ESSEX
318-B	Reinforcement & Development M2	Tue	8:00 am - 12:30 pm	GOLD RUSH
318-C	Serviceability/ Safety	Tue	1:30 pm - 6:00 pm	EXECUTIVE

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
318-D	Flexure & Axial Loads	Tue	8:00 am - 12:30 pm	SPINDRIFT
318-E	Shear & Torsion M1	Mon	10:00 am - 1:00 pm	KENORA
318-E	Shear & Torsion M2	Tue	8:00 am - 12:30 pm	KENT
318-EA	318 Electronic Aids	Sun	2:30 pm - 3:30 pm	ICE PALACE
318-G	Prestressed Precast	Tue	8:00 am - 12:30 pm	EXECUTIVE
318-H	Seismic Provisions	Tue	1:30 pm - 6:00 pm	KENT
318-L	International Liaison	Mon	8:30 am - 10:00 am	CONFERENCE B
318-R	Code Reorganization	Tue	1:30 pm - 6:00 pm	GOLD RUSH
318-S	Spanish Translation	Mon	2:00 pm - 3:30 pm	EXECUTIVE
318-TGF	Task Group Foundation	Mon	5:00 pm - 6:30 pm	WINDSOR WEST
325	Pavements	Tue	3:30 pm - 5:30 pm	SIMCOE/ DUFFERIN
325-A	Pavements - Design	Tue	9:00 am - 10:00 am	CARLETON
325-C	Pavements - Prestressed and Precast	Tue	10:30 am - 12:00 pm	CONFERENCE E
325-D	Proportioning for Pavements	Tue	1:00 pm - 3:00 pm	CARLETON
327	RCC Pavements	Tue	11:00 am - 1:00 pm	CONFERENCE F
329	Perf Ready Mixed	Wed	10:30 am - 12:30 pm	CONFERENCE C
330	Parking Lots & Site Paving	Wed	1:00 pm - 4:00 pm	HURON
330-TG1	Parking Lots & Site Paving TG	Wed	8:30 am - 11:30 am	HURON
332	Residential Concrete	Tue	1:30 pm - 5:00 pm	GRAND WEST
332-B	Conc Mtrls and Plcmnt	Tue	9:00 am - 10:30 am	GINGERSNAP
332-D&E	Residential Concrete D & E	Tue	10:30 am - 12:00 pm	WINDSOR EAST
332-F	Residential Concrete - Slabs	Tue	10:30 am - 12:00 pm	CONFERENCE B

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
334	Shells	Mon	5:00 pm - 6:00 pm	SPRING SONG
335	Composite Hybrid	Sun	11:30 am - 1:00 pm	WINDSOR WEST
336	Footings	Sun	1:00 pm - 5:00 pm	CONFERENCE D
341	Earthquake-Resistant Bridges	Sun	3:00 pm - 5:00 pm	OSGOODE EAST
341-A	Equake Res Brdgs - Columns	Sun	11:00 am - 12:30 pm	YORK
341-B	Equake Res Brdgs - Pier Walls	Sun	9:30 am - 11:00 am	YORK
341-C	Equake Res Brdgs - Retrofit	Sun	8:00 am - 9:30 am	YORK
341-D	Perf Based Seismic Design	Sun	1:00 pm - 3:30 pm	YORK
342	Bridge Evaluation	Sun	8:30 am - 10:00 am	SIMCOE
343	Bridge Design	Mon	10:00 am - 12:00 pm	GINGERSNAP
343-A	Design	Sun	11:00 am - 12:00 pm	PEEL
343-B	Bridge Deck Design	Mon	8:15 am - 9:00 am	ICE PALACE
343-D	Loads	Mon	12:00 pm - 1:00 pm	GINGERSNAP
345	Bridge Construction	Sun	1:30 pm - 3:30 pm	HURON
346	CIP Pipe	Mon	11:30 am - 1:00 pm	GOLD RUSH
347	Formwork M1	Sat	9:00 am - 6:00 pm	CONFERENCE E
347	Formwork M2	Sun	8:30 am - 12:30 pm	OSGOODE EAST
347-A	Formwork - Specification	Sat	7:00 pm - 9:00 pm	CONFERENCE E
348	Safety	Mon	2:00 pm - 3:30 pm	CONFERENCE G
349	Nuclear Structures	Tue	1:30 pm - 5:00 pm	GRAND EAST
349-A&B	Nuclear Structures - Design & Materials	Mon	12:30 pm - 4:30 pm	CITY HALL
349-C	Nuclear Str - Anchorage	Mon	8:15 am - 11:00 am	CONFERENCE C

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
349-TG	ACI 349 and ACI 359 Joint Committee Task Group	Tue	5:00 pm - 6:00 pm	GRAND EAST
350	Environmental Structures	Wed	8:00 am - 5:00 pm	GRAND EAST
350-A	Env Str - General & Concrete	Tue	11:30 am - 5:00 pm	WINDSOR WEST
350-B	Env Str - Durability	Mon	8:30 am - 1:00 pm	CONFERENCE E
350-C	Env Str - Reinf & Devel	Sun	8:30 am - 11:30 am	CARLETON
350-D	Env Str - Structural	Mon	8:30 am - 6:30 pm	YORK
350-E	Env Str - Precast/ Prestressed	Sun	1:00 pm - 5:00 pm	CONFERENCE B
350-F	Env Str - Seismic	Tue	8:30 am - 3:30 pm	CONFERENCE D
350-G&K	Env Str - Tightness Testing/Haz Mat	Tue	8:30 am - 11:30 am	SPRING SONG
350-H	Env Str - Editorial	Mon	12:30 pm - 2:00 pm	COSMOPOLITAN
350-J	Env Str - Education	Mon	3:30 pm - 6:30 pm	CONFERENCE G
350-L	Env Str - Specification	Tue	4:00 pm - 6:00 pm	CARLETON
350-SC	Env Str - Steering Comm	Sun	11:30 am - 1:00 pm	DUFFERIN
351	Equip Foundations	Mon	2:30 pm - 4:30 pm	NORFOLK
351-C	Equip Fdns - Dynamic Foundations	Sun	1:00 pm - 3:00 pm	GINGERSNAP
351-D	Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures	Mon	10:00 am - 12:00 pm	CLUB BOARDROOM
351-TG1	Spec for Cementitious Grouting between Foundations & Equipment Bases	Sun	11:00 am - 1:00 pm	CONFERENCE E
351-TG2	Specification for Epoxy Grouting between Foundations & Equipment Bases	Mon	12:00 pm - 2:00 pm	CLUB BOARDROOM

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
352	Joints	Sun	2:00 pm - 5:00 pm	PEEL
355	Anchorage	Sun	1:30 pm - 5:00 pm	ESSEX
357	Offshore & Marine	Tue	8:30 am - 12:30 pm	CLUB BOARDROOM
359-TG	ACI 349 and ACI 359 Joint Committee Task Group	Tue	5:00 pm - 6:00 pm	GRAND EAST
360	Slabs on Ground	Mon	2:00 pm - 6:30 pm	GRAND EAST
362	Parking Structures	Mon	1:00 pm - 5:00 pm	SPINDRIFT
362-A	Parking Str - Standard	Sun	12:00 pm - 3:00 pm	SIMCOE
363	High Strength	Wed	8:30 am - 11:30 am	CONFERENCE G
363-A	High-Strength Lightweight Concrete	Tue	3:30 pm - 5:00 pm	GINGERSNAP
364	Rehabilitation	Mon	1:00 pm - 3:00 pm	SIMCOE
364-TG1	Rehabilitation Guide	Mon	11:00 am - 12:00 pm	CONFERENCE C
365	Service Life	Mon	9:00 am - 11:00 am	ICE PALACE
369	Seismic Rehab M1	Sun	1:00 pm - 2:30 pm	ICE PALACE
369	Seismic Rehab M2	Mon	2:00 pm - 6:00 pm	GOLD RUSH
370	Blast and Impact Load Effects	Mon	2:30 pm - 5:00 pm	HURON
371	Elevated Tanks with Concrete Pedestals	Tue	11:00 am - 12:30 pm	YORK
372	Tanks Wrapped Wire/Strand	Tue	3:00 pm - 5:00 pm	KENORA
374	Seismic Design	Mon	8:15 am - 12:00 pm	SPINDRIFT
374-TG2	Protocol For Testing RC - Structural Elements	Sun	11:30 am - 1:00 pm	GINGERSNAP
375	Design for Wind Loads	Mon	1:00 pm - 3:30 pm	GINGERSNAP
376	RLG Containment Structures	Mon	1:00 pm - 4:00 pm	PEEL

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
376-01	Steering Subcommittee	Sun	10:30 am - 12:00 pm	KENT
376-A	Code, Education & Publication Subcommittee	Mon	10:00 am - 12:00 pm	PEEL
376-B	Materials Subcommittee	Sun	1:00 pm - 3:00 pm	KENT
376-C	Analysis Subcommittee	Sun	3:00 pm - 5:00 pm	KENT
376-D	Design & Construction Subcommittee	Mon	8:00 am - 10:00 am	PEEL
377-FM	Performance-Based Structural Integrity & Resilience of Concrete Structures	Mon	10:00 am - 12:30 pm	NORFOLK
408	Development and Splicing	Sun	8:30 am - 11:30 am	ICE PALACE
408-A	Mech Splices	Sun	8:00 am - 8:30 am	ICE PALACE
421	Reinf Slabs	Sun	10:00 am - 1:00 pm	PINNACLE
423	Prestressed	Mon	8:30 am - 12:30 pm	PINNACLE
423/445	Adhoc Grp on Shear in Prestress Conc	Sun	3:30 pm - 5:30 pm	HURON
423-E	Prestress - Losses	Sun	1:00 pm - 4:00 pm	DUFFERIN
435	Deflection	Mon	3:30 pm - 5:00 pm	CONFERENCE C
437	Strength Evaluation	Mon	10:30 am - 12:30 pm	DUFFERIN
439	Steel Reinforcement	Mon	8:30 am - 10:00 am	ESSEX
439-A	Steel-Reinforcement - Wire	Sun	3:30 pm - 5:00 pm	CONFERENCE G
440	Fiber-Reinforced Polymer	Tue	8:00 am - 11:00 am	GRAND WEST
440-D	Research Development and Applications	Sun	1:30 pm - 3:00 pm	OSGOODE EAST
440-E	FRP - Prof Education	Mon	8:30 am - 10:00 am	NORFOLK

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
440-F	FRP - Repair Strengthening	Mon	3:00 pm - 6:00 pm	OSGOODE EAST
440-H	FRP - Reinforced Concrete	Mon	1:00 pm - 3:00 pm	OSGOODE EAST
440-J	FRP - Stay-in-Place Forms	Mon	10:00 am - 11:30 am	OSGOODE EAST
440-L	FRP - Durability	Sun	3:00 pm - 5:00 pm	GRAND EAST
440-M	FRP - Repair of Masonry Str	Sun	8:30 am - 10:00 am	ESSEX
440-TG2	FRP - Task Group Repair Material Spec	Sun	10:00 am - 11:30 am	ESSEX
441	Columns	Mon	11:30 am - 2:00 pm	GRAND CENTRE
441-A	High-Strength Concrete	Mon	8:00 am - 9:00 am	KENORA
441-B	Lateral Reinf	Mon	9:00 am - 10:00 am	KENORA
441-E	Columns Multi-Spiral Reinf	Sun	11:30 am - 1:00 pm	CARLETON
444	Experimental Analysis	Tue	8:00 am - 10:00 am	PEEL
445	Shear & Torsion	Mon	2:00 pm - 6:00 pm	CONFERENCE F
445-A	Shear & Torsion - Strut & Tie	Sun	10:30 am - 1:30 pm	SPINDRIFT
445-B	Shear & Torsn - Seismic Shear	Sun	8:00 am - 10:00 am	WENTWORTH
445-C	Shear & Torsn - Punching Shear	Sun	1:00 pm - 3:00 pm	WINDSOR EAST
445-D	Shear & Torsn - Database	Sun	3:00 pm - 5:00 pm	SIMCOE
445-E	Shear & Torsn - SOA Torsion	Sun	12:30 pm - 2:00 pm	CONFERENCE F
446	Fracture Mechanics	Mon	3:30 pm - 5:00 pm	GINGERSNAP
447	Finite Element Analysis M1	Mon	11:00 am - 1:30 pm	ICE PALACE
447	Finite Element Analysis M2	Mon	5:00 pm - 6:30 pm	CONFERENCE C
506	Shotcreting	Tue	8:30 am - 11:30 am	GRAND EAST
506-A	Shotcreting - Evaluation	Sun	9:30 am - 11:00 am	GOLD RUSH

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
506-B	Shotcreting - Fiber-Reinforced	Sun	1:30 pm - 3:00 pm	SPINDRIFT
506-C	Shotcreting - Guide	Mon	8:30 am - 11:00 am	HURON
506-E	Shotcreting - Specifications	Mon	11:00 am - 12:30 pm	WINDSOR WEST
506-F	Shotcreting - Underground	Mon	3:00 pm - 5:00 pm	CARLETON
506-G	Qualifications for Projects	Sun	11:00 am - 12:30 pm	CONFERENCE B
515	Protective Systems	Tue	9:00 am - 11:00 am	HURON
522	Pervious Concrete	Tue	8:00 am - 11:00 am	SIMCOE/ DUFFERIN
523	Cellular Concrete	Tue	10:00 am - 1:00 pm	ICE PALACE
524	Plastering	Mon	8:30 am - 10:00 am	KENT
526	Autoclaved Aerated Concrete	Tue	8:30 am - 10:00 am	ICE PALACE
533	Precast Panels	Sun	1:00 pm - 2:30 pm	WINDSOR WEST
543	Piles	Mon	8:30 am - 11:30 am	CARLETON
544	Fiber-Reinforced Concrete	Tue	3:00 pm - 5:30 pm	OSGOODE EAST
544-A	FRC - Production & Applications	Mon	11:30 am - 1:00 pm	HURON
544-B	FRC - Education	Tue	8:30 am - 10:00 am	OSGOODE EAST
544-C	FRC - Testing	Tue	1:30 pm - 3:00 pm	OSGOODE EAST
544-D	FRC - Structural Uses	Mon	3:30 pm - 6:00 pm	EXECUTIVE
544-E	FRC - Mechanical Properties	Mon	5:00 pm - 6:30 pm	HURON
544-F	FRC - Durability	Tue	10:30 am - 12:00 pm	OSGOODE EAST
544-SC	FRC - Steering Committee	Mon	8:30 am - 10:00 am	EXECUTIVE
546	Repair	Mon	8:30 am - 11:30 am	SIMCOE
546-B	Repair - Material Selection Guide	Sun	8:00 am - 9:00 am	ELGIN

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
546-C	Repair - Guide	Sun	9:00 am - 12:00 pm	ELGIN
548	Polymers	Tue	8:30 am - 11:30 am	WINDSOR WEST
548-A	Polymers - Overlays	Mon	8:15 am - 11:00 am	SPRING SONG
548-B	Polymers - Adhesives	Mon	2:30 pm - 4:30 pm	KENT
548-C	Structural Polymer Design	Mon	11:00 am - 12:30 pm	SPRING SONG
549	Thin Reinforced	Sun	11:00 am - 1:00 pm	GOLD RUSH
549-TG2	Report on Thin Reinforced Cementitious Products/Analysis & Design Tools	Sun	10:00 am - 10:30 am	PEEL
550	Precast Structures	Sun	3:00 pm - 5:00 pm	SPINDRIFT
551	Tilt Up	Sun	9:00 am - 12:00 pm	HURON
552	Cementitious Grouting	Wed	8:00 am - 9:30 am	CARLETON
555	Recycled	Mon	5:00 pm - 6:30 pm	ICE PALACE
560	Design & Constr ICFs	Tue	8:30 am - 10:30 am	CONFERENCE F
562	Eval, Repair & Rehab	Sun	1:00 pm - 5:00 pm	PROVINCIAL
562-A	Eval, Repair & Rehab - Life Safety	Sat	4:00 pm - 6:00 pm	CONFERENCE F
562-B	Eval, Repair & Rehab - Loads	Sun	10:00 am - 12:00 pm	SIMCOE
562-C	Eval, Repair & Rehab - Structural Analysis M1	Sat	4:00 pm - 6:00 pm	WINDSOR EAST
562-C	Eval, Repair & Rehab - Structural Analysis M2	Sat	7:00 pm - 9:00 pm	WINDSOR EAST
562-D	Eval, Repair & Rehab - Structural Repair Design M1	Sat	10:00 am - 12:00 pm	WINDSOR EAST
562-D	Eval, Repair & Rehab - Structural Repair Design M2	Sat	1:00 pm - 4:00 pm	WINDSOR EAST

Numerical Committee Meeting Listing

Code	Committee	Day	Time	Room Name
562-E	Eval, Repair & Rehab - Durability Qlty Assurance	Sat	6:00 pm - 9:00 pm	CONFERENCE F
562-F	Eval, Repair & Rehab - General	Sat	1:00 pm - 6:00 pm	WINDSOR WEST
563	Specs for Repair of Struct Conc in Bldgs	Tue	1:00 pm - 5:00 pm	ICE PALACE
564-FM	Evaluation, Repair and Rehabilitation of Nuclear Concrete Structures	Mon	2:00 pm - 3:30 pm	WENTWORTH

Saturday, October 20, 2012
1:00 pm - 5:00 pm

Concrete Sustainability Forum and Panel Discussion (Fifth Anniversary) **CIVIC SOUTH**

Balancing Safety, Durability, and Resilience with Environmental Stewardship

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

Session Co-Moderators: Koji Sakai
Professor
Kagawa University
Takamatsu, Japan

Julie K. Buffenbarger
Engineering & Architectural Specialist
Lafarge
Medina, OH

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.

Saturday, October 20, 2012
1:00 pm - 5:00 pm

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.

Saturday, October 20, 2012
5:00 pm - 6:30 pm

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 **CONFERENCE B&C**
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** **MAIN LOBBY**
$198.00 U.S. per person

Cancelled

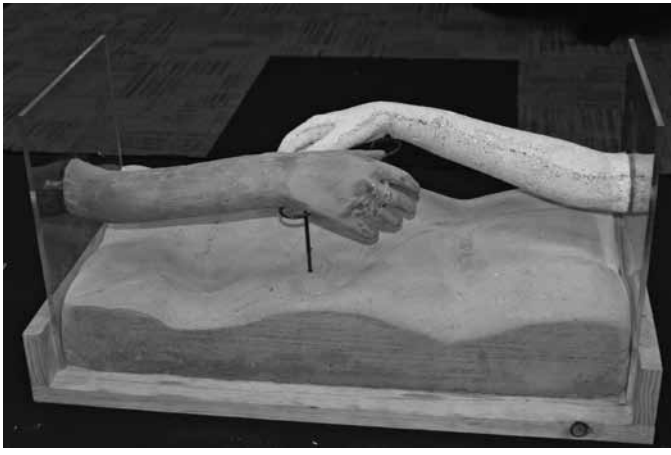
This day trip to Niagara Fall[illegible]a region from Toronto includes a wine tour and [illegible]rand Estates Winery followed by a three-c[illegible]ch includes a glass of wine. Following your tir[illegible], there will be a tour of Niagara-on-the-Lake wi[illegible]or browsing the various shops and galleries. P[illegible]ne travel time to the Niagara region will take [illegible]2 hours one way.

Tour tickets ma[illegible]e 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.*

Sunday, October 21, 2012
10:00 am - 5:00 pm

Art of Concrete Student Competition **OSGOODE WEST**
Sponsored by the ACI Ontario Chapter

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.

Sunday, October 21, 2012
1:00 pm - 3:00 pm

Perspectives on Service Life **CIVIC NORTH**
Sponsored by ACI Committee 365, Service Life Prediction

Session Moderator: Tracy D. Marcotte
Principal
CVM Engineers
Oaks, PA

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 **1:00 pm**
Tracy D. Marcotte, Principal, CVM Engineers, Oaks, PA

Multi-Decades of Monitoring a "New" Structure and Comparison with Current Service Life Prediction Models **1:20 pm**
Mohamad Nagi, Director, American University of Dubai, Dubai, United Arab Emirates

A Concrete Producer's View of Durable Concrete **1:40 pm**
Laura Mammoliti, Director, Quality-ECAN, Lafarge North America, Aggregates & Concrete, Concord, ON, Canada

How Do We Use Service Life Prediction to Develop Maintenance Strategies? **2:00 pm**
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.) **CIVIC NORTH**

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.

Sunday, October 21, 2012
1:00 pm - 3:00 pm

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

Sunday, October 21, 2012
1:00 pm - 3:00 pm

Site Casting New Form: Inspiring Function to Respond (cont.) **DOMINION NORTH**

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

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
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.

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 (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.

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 **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.) **DOMINION SOUTH**

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

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

Emerging Technologies in the Concrete Industry **DOMINION NORTH**

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.

Sunday, October 21, 2012
3:30 pm - 5:30 pm

Emerging Technologies in the Concrete Industry (cont.) **DOMINION NORTH**

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.

Sunday, October 21, 2012
3:30 pm - 5:30 pm

Teaching Sustainability to Current and Future Engineers **DOMINION SOUTH**

Sponsored by ACI Committees 130, Sustainability of Concrete, and 236, Material Science of Concrete

Session Moderator: Farshad Rajabipour
Assistant Professor
Pennsylvania State University
University Park, PA

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

Sunday, October 21, 2012
3:30 pm - 5:30 pm

Teaching Sustainability to Current and Future Engineers (cont.) **DOMINION SOUTH**

Incorporating Staged Self-Directed Learning Strategies to Teach Sustainability Concepts in Civil Engineering Materials **4:10 pm**
Raissa P. Ferron, Assistant Professor, University of Texas at Austin, Austin, TX

Practical Examples of Projects Using Sustainable Development Aspects **4:30 pm**
Corina-Maria Aldea, Senior Associate Materials Engineer, AMEC, Hamilton, ON, Canada

Small-Scale Development Projects in the Developing World—Practical Sustainability Education for Engineers **4:50 pm**
Kelsey Edwardsen, Structural Engineer, Bechtel Corporation, Richland, WA

Teaching Concrete Design Using Impromptu Design Exercises **5:10 pm**
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.

Sunday, October 21, 2012
8:00 pm - 10:00 pm

123 Forum: Do We Know Enough to Manage and Mitigate ASR Deteriorations in New and Existing Concrete Structures? **CIVIC SOUTH**

Sponsored by ACI Committee 123, Research and Current Developments

Session Moderator: Farshad Rajabipour
Assistant Professor
Pennsylvania State University
University Park, PA

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?

Sunday, October 21, 2012
8:00 pm - 10:00 pm

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

- 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

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
8:00 pm - 10:00 pm

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.

Monday, October 22, 2012
8:30 am - 10:30 am

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

Monday, October 22, 2012
8:30 am - 10:30 am

Portland-Limestone Cements: A Technology to Improve the Sustainability of Concrete **CIVIC NORTH**
Sponsored by ACI Committee 225, Hydraulic Cements

Session Moderator: James I. Turici Jr.
Technical Services Manager
Cemex USA
Sewickley, PA

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

Monday, October 22, 2012
8:30 am - 10:30 am

Portland-Limestone Cements: A Technology to Improve the Sustainability of Concrete (cont.) **CIVIC NORTH**

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, Frederickton, 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.

Monday, October 22, 2012
8:30 am - 10:30 am

Research in Progress, Part 1 of 2 **DOMINION NORTH**
Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators: Thomas Schumacher
Assistant Professor
University of Delaware
Newark, DE

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

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 Rajabipour**, 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.) **CIVIC SOUTH**

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.

Monday, October 22, 2012
9:00 am - 12:00 pm

✓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.*

Notes

Monday, October 22, 2012
10:30 am - 5:00 pm

Exhibitor Demonstrations **OSGOODE WEST**

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.

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

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 page109.

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.

Monday, October 22, 2012
11:00 am - 1:00 pm

Blast Testing for Structural Performance Verification (cont.) **CIVIC SOUTH**

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.

Monday, October 22, 2012
11:00 am - 1:00 pm

Research in Progress, Part 2 of 2 **DOMINION NORTH**
Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators: Thomas Schumacher
Assistant Professor
University of Delaware
Newark, DE

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

The session description and learning objectives for this session may be found in the Part 1 listing; see page 113.

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.

Monday, October 22, 2012
11:00 am - 1:00 pm

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

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.

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.

BAKER™
CONCRETE CONSTRUCTION
expect more

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.*

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

Emerging Technologies, Part 1 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 "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.

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 **CIVIC SOUTH**
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.

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

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

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

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.

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

Shrinkage-Compensating Concrete—Past, Present, and Future, Part 1 of 2 **CIVIC NORTH**
Sponsored by ACI Committee 223, Shrinkage-Compensating Concrete

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

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.

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

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

Analysis and Design Issues in Liquid-Containing Structures, Part 1 of 3 (cont.) **GRAND WEST**

Structural Repair of Settling Tanks in a Mexican Copper Mine Using FRP **4:40 pm**
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 **5:00 pm**
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 **5:20 pm**
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.

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

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

Forming a Framework for Performance-Based Seismic Design of Concrete Bridges, Part 2 of 2 **CIVIC SOUTH**
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

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

Reinforced Concrete Columns with High-Strength Concrete and Steel Reinforcement, Part 2 of 2 (cont.) **DOMINION NORTH**

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

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

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 **CHURCHILL**

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


Hope


Schupack

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.*

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

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

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

Applications of Acoustic Emission for Reinforced Concrete, Part 1 of 2 (cont.) **DOMINION SOUTH**

Baseline AE Activity in Unreinforced Concrete under Minimal External Stimulation **9:06 am**
Adrian Pollock, Principal Scientist, Mistras Group, Inc., Products and Systems Division, Princeton Junction, NJ

Correlation Analysis of Different Corrosion Rates with Acoustic Emission Activity of a Carbon Steel Plate in a 3.5% NaCl Environment **9:24 am**
Miguel A. González Núñez, Research Scientist, Mistras Group, Inc., Princeton Junction, NJ

Investigation on Acoustic Emission Characteristics in Concrete Slabs **9:42 am**
Tala Shokri, PhD Candidate, University of Miami, Miami, FL; and **Antonio Nanni**, University of Miami

Monitoring the Explosive Spalling of Concrete at Fire Condition by Means of the Acoustic Emission Technique **10:00 am**
Mitsuo Ozawa, Assistant Professor, Gifu University, Gifu, Japan; **Hiroaki Morimoto**, Gifu University; **Toshiro Kamada**, Osaka University; and **Shinya Uchida**, Saga 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
8:30 am - 10:30 am

Contractors' Day Session—Concrete's Contribution to Infrastructure, Part 1 of 3 **CIVIC NORTH**
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

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.) **CIVIC NORTH**

Niagara Tunnel Project **10:00 am**
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.

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

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**
Stephen W. Foster, Associate II, Wiss, Janney, Elstner Associates, Inc. Austin, TX; and **Carl J. Laroshce**, Wiss, Janney, Elstner Associates, Inc.

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 Alkhrdaji**, STRUCTURAL

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

Means and Methods of Evaluating Reinforced Concrete Structures (cont.) **DOMINION NORTH**

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

James Donnelly, Consultant, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL; and **John S. Lawler**, **Nathaniel Rende**, **Jonah Kurth**, **Paul Krauss**, and **Gordon Port**, Wiss, Janney, Elstner Associates, Inc.

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 **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: Anton Karel Schindler
Professor and HRC Director
Auburn University
Auburn, AL

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

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

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

Field Performance of Internally Cured Concrete Bridge Decks in New York State **9:15 am**
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 **9:40 am**
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 **10:05 am**
Kambiz Raoufi, Materials Manager, Bechtel Inc., Houston, TX; and **W. Jason Weiss**, Purdue 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
9:00 am - 5:00 pm

Exhibitor Demonstrations **OSGOODE WEST**

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.

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

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 artwork… galleries, the Art Gallery of Ontario ha… …stination for extraordinary art and architect… …uropean, Canadian, and contemporary ar… …world-renowned Thomson collection. Our ex… …des a three-course lunch at the Art Gallery o… …ure restaurant, FRANK, designed by celebrate… …rchitect Frank Gehry.

Tour tickets ma… …p until 24 hours prior to the event, based on c… … ***are nonrefundable.*** *All tours depart from the To… …desk in the main lobby of the Sheraton Centre Hotel.*

Cancelled

✓ = separate fee required

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

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

Applications of Acoustic Emission for Reinforced Concrete, Part 2 of 2 (cont.) **DOMINION SOUTH**

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.

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

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

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

Machine Foundations, Part 1 of 2 (cont.) **CIVIC NORTH**

Foundation Design Consideration for Wind and Solar Towers **12:30 pm**
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.) **CIVIC SOUTH**

UHPC Material and Design Approach on Jean-Bouin Stadium and MUCEM Museum **12:15 pm**
Dominique Corvez, Group Technical Director Ductal, Lafarge, Paris, France

Ductal Integration at the Rotman School of Management **12:30 pm**
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.*

Tuesday, October 23, 2012
1:00 pm - 4:30 pm

✓Gardiner Museum & Small Galleries of Yorkville **DEPART MAIN LOBBY**
$90.00 U.S. per person

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 Ziari, 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 **CIVIC NORTH**
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.

Tuesday, October 23, 2012
1:30 pm - 3:30 pm

Open Paper Session, Part 1 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 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

Tuesday, October 23, 2012
1:30 pm - 3:30 pm

Open Paper Session, Part 1 of 2 (cont.) **DOMINION SOUTH**

The Use of Super-Absorbent Polymers to Mitigate Shrinkage of Concrete **2:30 pm**
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 **2:50 pm**
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 **3:10 pm**
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.

Tuesday, October 23, 2012
4:00 pm - 6:00 pm

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

Tuesday, October 23, 2012
4:00 pm - 6:00 pm

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 **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

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**, Surgent & 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 Engineering, 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

Tuesday, October 23, 2012
4:00 pm - 6:00 pm

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.

Tuesday, October 23, 2012
5:30 pm - 6:30 pm

Faculty Network Reception **CHURCHILL**

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.

Wednesday, October 24, 2012
8:30 am - 10:30 am

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

Wednesday, October 24, 2012
8:30 am - 10:30 am

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.) **DOMINION SOUTH**

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

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

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

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.

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 **CIVIC SOUTH**
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.) **CIVIC SOUTH**

Design of Blast-Resistant Structures for Explosives Safety Applications **12:00 pm**
William H. Zehrt, Chief Structures Branch, DoD Explosives Safety Board, Alexandria, VA

Blast and Fragmentation Effects of Close-Range Detonations and Related Mitigation Techniques **12:20 pm**
Khaled A. El-Domiaty, Structural Lead Supervisor, Baker Engineering & Risk Consultants, Arlington, VA

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

Wednesday, October 24, 2012
11:00 am - 1:00 pm

Fiber-Reinforced Concrete for Sustainable Structures CIVIC NORTH
Sponsored by ACI Committee 544, Fiber-Reinforced Concrete; and ACI Subcommittee 544-F, FRC-Durability

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

Mahmut Ekenel
Civil Engineer
ICC-ES
Whittier, CA

In recent years, human sustainability has been increasingly associated with the integration of economic, social, and environmental spheres. The cement-based materials industry is committed to minimizing any negative impact it may contribute to the natural environment. 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.) **CIVIC NORTH**

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 Infrastruture 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.

Wednesday, October 24, 2012
11:00 am - 1:00 pm

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

Wednesday, October 24, 2012
11:00 am - 1:00 pm

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.

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Session Attendance Tracking Form for the ACI Fall 2012 Convention

Toronto, ON, Canada • October 21-24, 2012

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.: _____

Saturday, October 20, 2012

1:00 PM-5:00 PM (Select one session)..... 4 PDH

	PDH Codes for selected session:
❑ Concrete Sustainability Forum and Panel Discussion (Fifth Anniversary)	_____

Sunday, October 20, 2012

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

❑ Perspectives on Service Life (365)	_____
❑ Site Casting New Form: Inspiring Function to Respond (551/650C)	_____
❑ 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)	_____
❑ The Business Case for Social Media: How Social Media Can Build Your Individual and Professional Brand in the Construction Industry (MKTC/SYPAC)	

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

	PDH Codes for selected session:
❑ Emerging Technologies in the Concrete Industry (TTAG)	_____
❑ Placement of Epoxy Grout in an Industrial Environment (351)	_____
❑ Teaching Sustainability to Current and Future Engineers (130/236)	_____
❑ 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	_____
	_____

Monday, October 22, 2012

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

❑ Advancements in the Use of Building Information Modeling (BIM) Systems, Part 1 of 2 (ACI Ontario Chapter)	_____
❑ Portland-Limestone Cements: A Technology to Improve the Sustainability of Concrete (225)	_____
❑ Research in Progress, Part 1 of 2 (123)	_____
❑ Things They Don't Teach You in School (S805)	

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 — PDH Codes for selected session:

- ❑ 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 (123)
- ❑ 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 — PDH Codes for selected session:

- ❑ 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 (123) _____
- ❑ 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 2 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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Facebook and Twitter

Follow the ACI Convention on Facebook at **www.facebook.com/Americanconcreteinstitute** and on Twitter at **#aciconvention** for the latest information.

Thank you for attending the ACI Fall 2012 Convention!

Future ACI Conventions

Spring 2013
Responsibility in Concrete Construction
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
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