ACI Fall 2010 Convention Program Book

Pittsburgh

The Westin Convention Center Hotel & David L. Lawrence Convention Center
October 24-28, 2010
Pittsburgh, PA

Green Concrete in the Steel City

FALL 2010 ACI PITTSBURGH

Table of Contents
ACI Fall 2010 Convention

October 24-28, 2010
The Westin Convention Center Hotel &
David L. Lawrence Convention Center
Pittsburgh, PA

In Remembrance of ACI President Richard D. Stehly

1950 - 2010

American Concrete Institute
Board of Direction

President
Kenneth C. Hover

Vice Presidents
James K. Wight
Luis E. García

Directors
Dennis C. Ahal
Emmanuel K. Attiogbe
Claude Bédard
Beverly A. Garnant
Ron Klemencic
David A. Lange
Colin L. Lobo
Denis Mitchell
Jack P. Moehle
David H. Sanders
Joseph C. Sanders
Andrea J. Schokker

Past Presidents
Florian G. Barth
David Darwin

Executive Vice President
Ron Burg

ACI President's Welcome

ACI Members and Guests—Welcome to Pittsburgh and the ACI Fall 2010 Convention!

It has been a solemn time for ACI as we mourn the loss of Richard D. Stehly, ACI's elected President for 2010. During his short time as President, Dick developed and began work on many goals for the Institute. One goal in particular that stands out is growth—growth in areas such as sustainability, leadership, knowledge, and, most importantly, people. If there is one thing I know about Dick it is that he believed the members, partners, and the many individuals who make up ACI are the reasons ACI is such a tremendous organization.

As ACI's chartered objective states, ACI's purpose is "to provide a comradeship in finding the best ways to do concrete work of all kinds and in spreading that knowledge." It is the knowledge, experience, and enthusiasm of ACI members, partners, and guests—like you—that are our biggest asset in realizing this objective.

This is why ACI and the Pittsburgh Area Chapter have placed a great deal of effort into developing a convention program that is both productive and memorable. Convention highlights include five technical sessions approved by the AIA and USGBC for Continuing Education Credit, the Student Egg Protection Device Competition, numerous other sessions and events focused on sustainability, networking events such as the Concrete Mixer—History of Pittsburgh, and much more.

Whether you attend committee meetings, technical sessions, or network with friends and other concrete professionals, it is my hope that all of you will gain valuable industry information and experience that will help you grow in your profession. Thank you for attending the convention and your commitment to ACI.

Kind Regards,

Ken Hover

Ken Hover
ACI President

COMMONWEALTH OF PENNSYLVANIA
OFFICE OF THE GOVERNOR
HARRISBURG

It gives me great pleasure to welcome everyone gathered in Pittsburgh for the American Concrete Institute Fall 2010 Convention.

Across our nation, concrete companies and their workers help to define the American Dream, creating a strong economic foundation and setting the course for our future. Today, the concrete industry continues to offer a wide variety of highly skilled opportunities and employs some of our nation's most talented engineers, technicians, and business leaders. As you gather for this year's convention, it is my hope that the event proves to be among its most successful and opens new doors for technological growth and productive partnerships.

During your stay in Pittsburgh I hope you will have the opportunity to enjoy everything this great city has to offer and view the vast resources and natural beauty of western Pennsylvania. I am sure that you will soon learn there are many truly memorable ways to see and experience western Pennsylvania. As you travel our scenic highways and byways, you will discover the qualities that make this region such an enriching place to visit – the goodness of its people, the richness of its historical significance, and its geographic diversity. Given the area's natural beauty and cultural vibrancy, I am confident that you will create many lasting memories.

As Governor of the Commonwealth of Pennsylvania, I am pleased to welcome everyone to Pittsburgh for the American Concrete Institute Fall 2010 Convention and extend my best wishes as you work to develop the future of the concrete industry.

Edward G. Rendell
Governor

CITY OF PITTSBURGH

"America's Most Livable City"

Office of Mayor Luke Ravenstahl

Dear Convention Attendees:

On behalf of the residents of the City of Pittsburgh, I am honored to welcome the participants of the American Concrete Institute's Fall 2010 Convention to "America's Most Livable City." We are thrilled that you have chosen to visit our great City!

This conference boasts a terrific agenda - complete with educational sessions on the latest in concrete technology, networking opportunities, tours of the City and other fun-filled events. This year's theme, "Green Concrete in the Steel City," is an excellent choice, especially given the innovative steps Pittsburgh has taken to become a more sustainable and efficient City.

Our City has undergone a remarkable economic, environmental and quality of life transformation, which President Obama cited when he selected Pittsburgh to host the G-20 Summit last September. We were extremely proud to welcome the world for this prestigious event, which allowed us to tell our story and showcase Pittsburgh's transformation.

Pittsburgh is rich with numerous historical, recreational and social amenities. From great theater to dining, Pittsburgh is a City that has something for everyone. Take a ride on the inclines and experience the "Nighttime View from Mount Washington" – ranked No. 2 on USA Weekend Magazine's 10 most beautiful places in America. Check out our museums, which offer everything from dinosaurs to Andy Warhol. And our Cultural District, which offers spectacular shows and cutting-edge galleries, and is the largest of any such arts district outside of New York's Broadway.

Pittsburgh is currently experiencing a Third Renaissance. We have exceptional universities and medical facilities, a diverse economy, cutting-edge research and technology labs and more than $4 billion in Downtown development projects in the works. Our great City has become a national leader in green building, a hub for clean energy businesses, and home to top environmental education programs. With a focus on continued revitalization of the City's neighborhoods, the renaissance aims to keep Pittsburgh as "America's Most Livable City" as well as one of its safest and cleanest cities.

I hope you enjoy your stay in the City that keeps surprising people from all over the world. Enjoy the convention, and please come back and visit us often.

Sincerely,
Luke Ravenstahl
Mayor, City of Pittsburgh

ACI Spring 2011 Convention

Concrete—The Strength of Florida

April 3-7, 2011

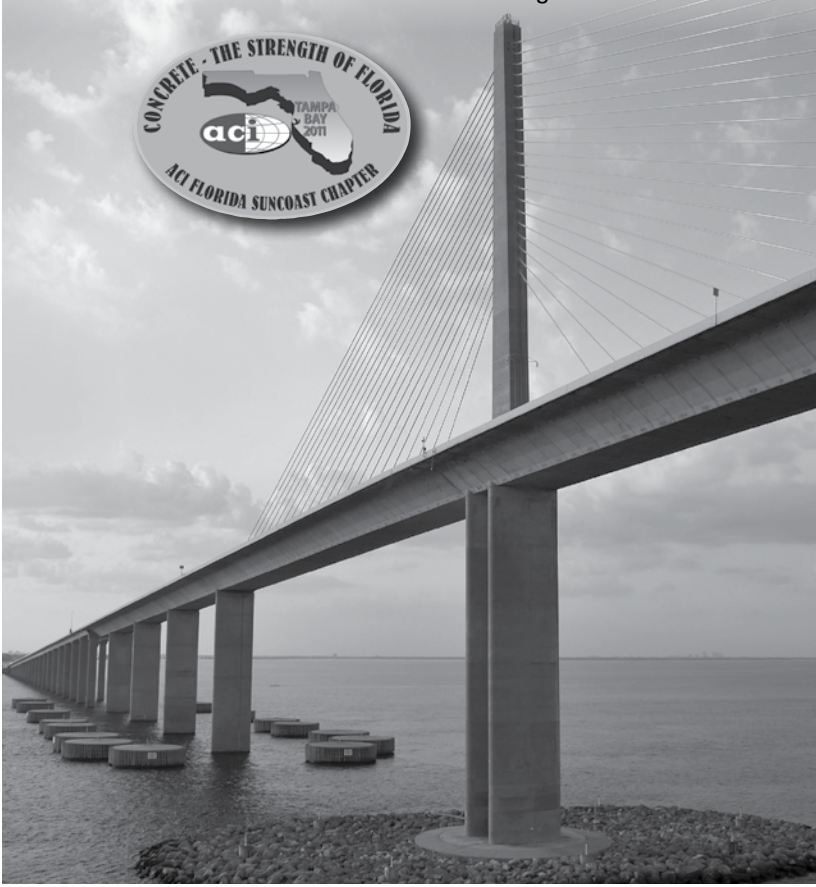
Marriott Tampa Waterside and Westin Harbour Island Hotels

Tampa, FL

Highlights of the convention include:

- Opening Session and Awards Program
- Student Lunch—Santanu Das, Vice President of Integrated Engineering for Bentley Systems, presents *Advancing Your Position in the Design Workflow through Software Interoperability*
- Contractors' Day Lunch speaker Larry Novak presents *Tallest Building—Burj Khalifa, Dubai UAE*
- 300+ Committee Meetings
- 30+ Sessions
- Networking events, including the Concrete Mixer at the Florida Aquarium—one of the top 10 aquariums in the country!

For more information about the ACI Spring 2011 Convention, visit www.aciconvention.org.



ACI Sustaining Members

ACS Manufacturing Corporation

Ash Grove Cement Company

Ashford Formula

Baker Concrete Construction

Barrier-1 Inc.

BASF Admixtures, Inc.

BCS

Boral Material Technologies, Inc.

Buzzi Unicem USA

Cantera Concrete Company

CECO Concrete Construction

CHRYSO, Inc.

Concrete Engineering Specialists

Concrete Reinforcing Steel Institute

ACI Sustaining Members

CTLGroup

Dayton Superior

e-construct

The Euclid Chemical Co.

Fibercon International, Inc.

Francis Harvey & Sons

Future Tech Consultants

W.R. Grace & Co.

Golden Relief Resources LLC

Headwaters Resources, Inc.

Holcim (US) Inc.

ICS Penetron International Ltd.

Keystone Structural Concrete, LLC

Kleinfelder

Lafarge North America

Lehigh Cement Co.

Lithko Contracting, Inc.

Meadow Burke

ACI Sustaining Members

W. R. Meadows, Inc.

Metromont Corporation

Municipal Testing

Operating Engineers Training Trust

Oztec Industries, Inc.

Portland Cement Association

Precast/Prestressed Concrete Institute

Propex Concrete Systems

LM Scofield

Seretta Construction, Inc.

Sika Corp.

S. K. Ghosh Associates, Inc.

Structural Group

Structural Services, Inc.

Triad Engineering, Inc.

Wacker Neuson

Westroc, Inc.

Convention Sponsors

The ACI Pittsburgh Area Chapter wishes to thank the following organizations for their donations to make the ACI Fall 2010 Convention a success.

HEINZ

ACI Pittsburgh Area Chapter
Baker Concrete Construction

MELLON

Elemix Additive

ROONEY

Bryan Materials Group
BASF Corporation
Elkem Materials, Inc.

CARNEGIE

Cemex, Inc.
The Euclid Chemical Co.
Lafarge North America

WESTINGHOUSE

ACI Arizona Chapter
ACI Carolinas Chapter
ACI Eastern Pennsylvania Chapter
ACI Greater Michigan Chapter
ACI Southern California Chapter
Essroc Italcementi Group
Grace Construction Products

WARHOL

ACI Arkansas Chapter
ACI British Columbia Chapter
ACI Central Texas Chapter
ACI Florida Suncoast Chapter
ACI Georgia Chapter
ACI Houston Chapter
ACI Illinois Chapter
ACI Las Vegas Chapter

Convention Sponsors

WARHOL (cont.)

ACI Louisiana Chapter
ACI Maryland Chapter
ACI Missouri Chapter
ACI National Capital Chapter
ACI New Jersey Chapter
ACI New Mexico Chapter
ACI Northeast Texas Chapter
ACI Ontario Chapter
ACI Rocky Mountain Chapter
AMSYSCO, Inc.
Carmeuse Lime & Stone
Concrete Industry Board
Construction Materials Consultants
Digital Site Systems, Inc.
John Gulisek Construction Co.
Knickerbocker Russell Co., Inc.
Professional Service Industries, Inc.

Sponsors are listed as of 10/5/10.

ACI Pittsburgh Area Chapter 2010 Officers and Board of Directors

President
Matthew Manning, J.J. Kennedy Inc.

Vice President
Justin Bryan, Frank Bryan Inc.

Past President
Bruce Cody, Pennsylvania Aggregates & Concrete Association

Secretary/Treasurer
Beth Rader, ACI Pittsburgh Area Chapter

Directors
Matthew Bryan, Quality Concrete Inc.
Ronald Bennett, The Euclid Chemical Co.
Craig Bolinger, A&A Consultants Inc.
Patrick Hoffman, Ligonier Stone & Lime Concrete
Thomas Hunt, Cemex Inc.
William G. Meek, Cemex Inc.
Michael Paul Moore, Civil and Environmental Consultants Inc.
Mark Moyer, New Enterprise Stone & Lime Co
Russell Smith, Kiefer Coal & Supply Co
Mark Snyder, International Society for Concrete Pavements

ACKNOWLEDGMENTS

The Pittsburgh Chapter Convention Committee wishes to thank the Pittsburgh Area Chapter's Board of Directors for their tremendous support in all phases of convention planning and financing.

Additionally the committee would like to thank and recognize the founding members of the ACI Pittsburgh Area Chapter (circa 1962):

Art Livingood
Andy Fertal
Bob Zerns

Without their vision, initiative, and leadership, this convention and many great moments in Pittsburgh Area concrete history would not have been possible.

ACI Pittsburgh Chapter Convention Committee

Co-Chairs
James Turici, Cemex Inc.
Nick Wytiaz, Solar Testing of Pennsylvania

Contractors' Day
Chair—James Rader, J.J. Kennedy Inc.
Bruce Cody, Pennsylvania Aggregates & Concrete Association
John Rader, J.J. Kennedy Inc.
Greg Reshenberg, Stone & Company
Jeremy J. Swartzfager, ICS Penetron International, Ltd.

Exhibits
Chair—David Farone, Essroc Italcementi Group
Greg Reshenberg, Stone & Company

Fundraising
Chair—William G. Meek, Cemex Inc.
Tom Demaria, BASF Construction Chemicals, LLC
David Detloff, W.H. Stone & Company
Tricia Ladely, Nova Chemicals, Inc.

Guest Program
Chair—George Wargo, CEC, Inc.
Randa Clark, RJ Lee Group, Inc.
Nick Wytiaz, Solar Testing of Pennsylvania

Publicity
Chair—Tom Hunt, Cemex Inc.
Randa Clark, RJ Lee Group, Inc.

Secretary
Beth Rader, ACI Pittsburgh Area Chapter

Social Events
Chair—Nick Wytiaz, Solar Testing of Pennsylvania
James Turici, Cemex Inc.

ACI Pittsburgh Chapter Convention Committee (cont.)

Student Program
Chair—Julie Vandenbossche, University of Pittsburgh
Russell Smith, Kiefer Coal & Supply Company

Treasurer
George Wargo, CEC, Inc.

Volunteer Coordinator
Pat Hoffman, Ligonier Stone & Lime Concrete

1947 Ford Flat Head on display in the ACI Exhibit Area

BEFORE

AFTER

This is a 1947 Ford Flat Head V8, 239 cubic inches, 87 Horsepower commercial truck with 1-1/2 yard mobile truck body by T.L. Smith Company of Milwaukee Wisconsin. New for the 1939 model year, Smith introduced a high discharge mixer that was the first of its kind and completely changed the industry. The truck and body was located in a junk yard in Northern Wisconsin. The restoration was completed by Russell Smith of Kiefer Coal & Supply, which is a third-generation family-run company in business since 1930.

General Information

C = Convention Center O = Omni W = Westin

ACI REGISTRATION **C-BALLROOM FOYER**

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

Saturday	2:00 pm-6:00 pm
Sunday	7:30 am-5:00 pm
Monday	8:00 am-5:00 pm
Tuesday	8:00 am-5:00 pm
Wednesday	8:00 am-12:00 pm

Convention bags courtesy of BASF.

BASF
The Chemical Company

Name Badges

ACI uses color-coded name badges to identify attendees. Name badges are as follows:

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

ATTENTION ACI ATTENDEES!

First-time convention attendees have a "Convention #1" ribbon on their name badge. Please welcome them to the convention!

SCHEDULE CHANGES **C-BALLROOM FOYER**

Cancellations, additions, and location changes to the convention schedule will be posted daily on a monitor in the exhibit area at the David L. Lawrence Convention Center.

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 7297 (Westin), 6193 (Convention Center); or 0 (Omni).

General Information

C = Convention Center O = Omni W = Westin

BEVERAGE BREAKS AND CONCESSIONS C-BALLROOM FOYER

Beverages and concessions are available courtesy of ACI during the following hours.

Coffee breaks	Sunday-Wednesday	7:00 am-10:00 am
Breakfast concession	Sunday only	7:00 am-11:00 am
Lunch concession	Sunday-Tuesday	11:00 am-3:00 pm
Soda breaks	Saturday-Tuesday	12:00 pm-3:00 pm
Dinner concession	Sunday only	5:00 pm-9:00 pm

Water Stations

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

Alcohol Policy

Non-alcoholic beer and soft drinks are available at all ACI-sponsored receptions. The legal drinking age in Pittsburgh is 21.

ACI BOOK DRIVE C-BALLROOM FOYER

Making Literacy More Concrete!

ACI will be conducting a book drive and is asking that each attendee bring a new or gently used book to the convention for children in grades K-12. Book donations may be made at the Convention Center in the Ballroom Foyer during open exhibit hours. **Help us reach our goal of 800 books!**

Donated books will go to the Pittsburgh Chapter of Communities in Schools, an organization that strives to champion the connection of needed community resources with schools to help young people successfully learn, stay in school, and prepare for life. In addition to book donations, ACI will be donating used computers and office supplies to the Pittsburgh Chapter of Communities in Schools following the convention.

General Information

C = Convention Center O = Omni W = Westin

ACI BOOKSTORE **C-BALLROOM FOYER**
Visit the ACI Bookstore to receive 10% off of publications and learn how to win a 2010 *Manual of Concrete Practice* CD 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 **C-BALLROOM FOYER**
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 resume and to view, apply for, and save available jobs. Currently there are approximately 100 jobs listed in the ACI 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—C-BALLROOM FOYER**
To learn MORE about ACI membership benefits and how to become a member, visit the ACI Bookstore.

CYBER STATIONS & WIRELESS HOT SPOTS **C-BALLROOM FOYER**
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	2:00 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 Cybercafe 1**, **ACI Cybercafe 2**, **ACI Cybercafe 3**, or **ACI Cybercafe 4** in your network connections.

SESSION HANDOUTS ON DEMAND
Handouts are available from speakers who have elected to provide and post them to the ACI Web site. 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.

General Information

C = Convention Center O = Omni W = Westin

LOCAL INFORMATION C-BALLROOM FOYER

ACI Pittsburgh Area Chapter Desk & VisitPittsburgh Booth

ACI Pittsburgh Area Chapter members will be happy to answer general convention questions and provide information about the local area. Additionally, staff from VisitPittsburgh will also be available to answer questions, provide brochures and make restaurant reservations. Stop by their information desk during the following hours:

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

DINE AROUND C-BALLROOM FOYER

On Sunday, October 24, 2010, ACI attendees will have the opportunity to participate in a Dine Around in downtown Pittsburgh. ACI has reserved seats at the following local restaurants in 30-minute increments from 7:00 pm to 8:30 pm.

Mt. Washington Area
Monterey Bay Fish Grotto
LeMont

Strip District
Kaya
Lidia's
Roland's Seafood Grill

Station Square
Grand Councourse
Buca di Beppo
Joe's Crab Shack

Close to Hotel
Capital Grille
Morton's Steakhouse
Original Fish Market
Sonoma Grille
Bravo Franco
McCormick & Schmick's
Braddock's
Ruth's Chris Steakhouse

- If you have requested a reservation in advance, please see the Dine Around Information Table to obtain your confirmation.
- If you have not made a reservation, please go to the Dine Around Information Table located in the C-Ballroom Foyer to select an available restaurant.
- See the Dine Around Information Table for transportation options.

Dine Around Information Table Hours:

Saturday	2:00 pm-6:00 pm
Sunday	7:30 am-2:00 pm

General Information

C = Convention Center O = Omni W = Westin

RESTAURANT RESERVATIONS
The concierge at each hotel is also available to make restaurant reservations and recommendations every day from 7:00 am to 12:00 am at the Omni and from 7:00 am to 7:00 pm at the Westin.

RESTAURANTS
CONVENTION CENTER

ACI Concession Stand C-BALLROOM FOYER
A concession stand will be set up in C-Ballroom Foyer Sunday 7:00 am-3:00 pm for breakfast and lunch, and 5:00 pm-9:00 pm for dinner, and Monday through Wednesday 11:00 am-3:00 pm for lunch. Sandwiches, salads, fruit, and other grab-and-go items will be available for purchase.

WESTIN

The Original Fish Market W-LOBBY LEVEL
The Original Fish Market serves the city's freshest seafood and Pacific-style sushi accompanied by one of the area's most extensive wine lists. Lunch and dinner are served Monday through Friday 11:00 am-1:00 am, and Saturday and Sunday 4:00 pm-12:00 am.

Penn City Grill W-SECOND FLOOR
Breakfast is available Monday through Friday 6:30 am-11:00 am and Saturday through Sunday 6:30 am-2:00 pm.

Pizza and Panini W-FIRST FLOOR CONCOURSE
Pizza and Panini serves freshly-made flatbread pizzas, a variety of hot panini sandwiches, and healthy salads. Open Monday through Friday 11:00 am-2:00 pm.

Brown Bag Deli W-FIRST FLOOR CONCOURSE
Pick up a quick snack or sandwich Monday through Friday 7:00 am-3:30 pm.

Crazy Mocha W-FIRST FLOOR CONCOURSE
Stop by to grab coffee or a pastry Monday through Friday 6:00 am-6:00 pm, and Saturday and Sunday 8:00 am-12:00 pm.

Room Service
Room service is available at the Westin 24 hours a day.

General Information

C = Convention Center O = Omni W = Westin

OMNI

The Terrace Room **O-FIRST FLOOR LOBBY**
An award-winning restaurant serving "New Traditional" cuisine with original and creative dishes for breakfast, lunch, and dinner. The restaurant is open Monday through Sunday 6:30 am-2:00 pm and 5:00 pm-10:00 pm.

Palm Court **O-FIRST FLOOR LOBBY**
The Palm Court serves light snacks, traditional afternoon tea, and specialty drinks in an elegantly understated atmosphere. The Palm Court is open Monday through Sunday 11:30 am-11:00 pm, with Afternoon Tea served Monday through Saturday 2:30 pm-4:30 pm.

The Tap Room **O-LOBBY LEVEL**
Get a taste of the Steel City and watch your favorite sporting event on our plasma TVs while you enjoy appetizers, soups, and sandwiches. Or try the best chili in the city and an array of local microbrews. The Tap Room is open Sunday through Thursday 11:30 am-1:00 am, and Friday and Saturday 11:30 am-2:00 am.

Starbucks **O-HOTEL LOBBY**
Stop by to grab coffee or a pastry Monday through Friday 6:30 am-7:00 pm, and Saturday and Sunday 6:30 am-4:00 pm.

Mixters **O-LOBBY LEVEL**
Mixters is a cyber café that offers soups, salads, wraps, smoothies, and other healthy alternatives. Open Monday through Friday 6:30 am-4:00 pm.

Bruegger's Bagels **O-LOBBY LEVEL**
A great place to stop for a bagel, sandwich, and a cup of soup. Open Monday through Friday 6:00 am-8:00 pm, Saturday and Sunday 6:00 am-5:00 pm.

Room Service
Room service is available at the Omni 24 hours a day.

General Information

C = Convention Center O = Omni W = Westin

TRANSPORTATION

Airport Shuttle

SuperShuttle offers a scheduled transfer service 7 days a week, 24 hours a day from downtown to the Pittsburgh International Airport for $19.00 per person each way. Use the special group code **9KUUN** and receive $4.00 off of your round-trip reservation. Return transfer reservations must be made 24 hours prior to departure. To purchase your shuttle ticket in advance or to learn more about SuperShuttle, please visit **www.supershuttle.com** or call 1-800-258-3826. *Please note that SuperShuttle does make additional stops at other hotels on the way to and from downtown, which could delay your anticipated arrival/departure times.*

Airport Flyer Bus

The Airport Flyer Bus route 28X is available to the Pittsburgh International Airport every 30 minutes for a fare of $2.75 per ride. For additional information on fares, schedules, or the Port Authority of Allegheny County, please visit **www.portauthority.org**.

Hotel Shuttle

The Westin Convention Center Hotel offers a complimentary shuttle within a two-mile radius of the hotel and will also take you to Station Square. The shuttle is first-come, first-served and may be found outside the Westin main lobby.

Taxis

Taxi cabs are available outside the Westin and Omni. The average cost of a taxi to the Pittsburgh International Airport is approximately $35-$45 depending on the number of passengers, the time of day, and destination.

Should you need a taxi throughout the convention, be sure to call for a taxi 15-30 minutes in advance of the time in which you would like to depart. A business card with phone numbers for local taxi companies may be found behind your name badge. Additionally, please feel free to contact the following taxi companies throughout your stay.

Yellow Cab: 412-321-1800
Checker Cab: 412-231-1502

General Information

C = Convention Center O = Omni W = Westin

SESSION ATTENDANCE TRACKING FORM

The Session Attendance Tracking Form found after page 174 can be submitted to state boards that allow self-reporting of Continuing Education activities as evidence of participation. (Note: New York does NOT allow self-reporting). In most cases, one contact hour is equal to one Professional Development Hour (PDH). Check with your state board for acceptance criteria. ***Please note: ACI does not track and cannot provide documentation confirming attendee participation or attendance at any ACI session held during the convention unless otherwise noted.***

CONTINUING EDUCATION CREDIT

Attention Architectural License Holders: You may earn Continuing Education Credit from AIA for ACI convention sessions where indicated. Please see the session monitor at the back of the room to obtain a copy of Form C. Return completed forms to ACI Registration.

LEED Credentialing Maintenance Program: The U.S. Green Building Council has approved ACI convention sessions where indicated to received 3 GBCI CE hours toward the LEED Credentialing Maintenance Program. **You MUST see the session monitor at the back of the room to sign in and out to receive credit**.

SPEAKER READY ROOM **C-313**

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

Saturday	3:00 pm-7:00 pm
Sunday	7:00 am-7:00 pm
Monday & Tuesday	7:00 am-6:00 pm
Wednesday	7:00 am-3:00 pm

All speakers are requested to check in at the Speaker Ready Room one day prior to their session to ensure that:

- ACI has downloaded their presentation on the network in the session rooms
- Speakers' session handouts are uploaded to the ACI Web site

General Information

C = Convention Center O = Omni W = Westin

ACI SPRING 2011 CONVENTION C-BALLROOM FOYER

Mark your calendars for the Spring 2011 Convention in Tampa, FL. The convention will be held April 3-7, 2011 at the Marriott Tampa Waterside and Westin Harbour Island.

The ACI Florida Suncoast Chapter will be available Saturday through Tuesday to answer your questions about Tampa and activities at the spring convention.

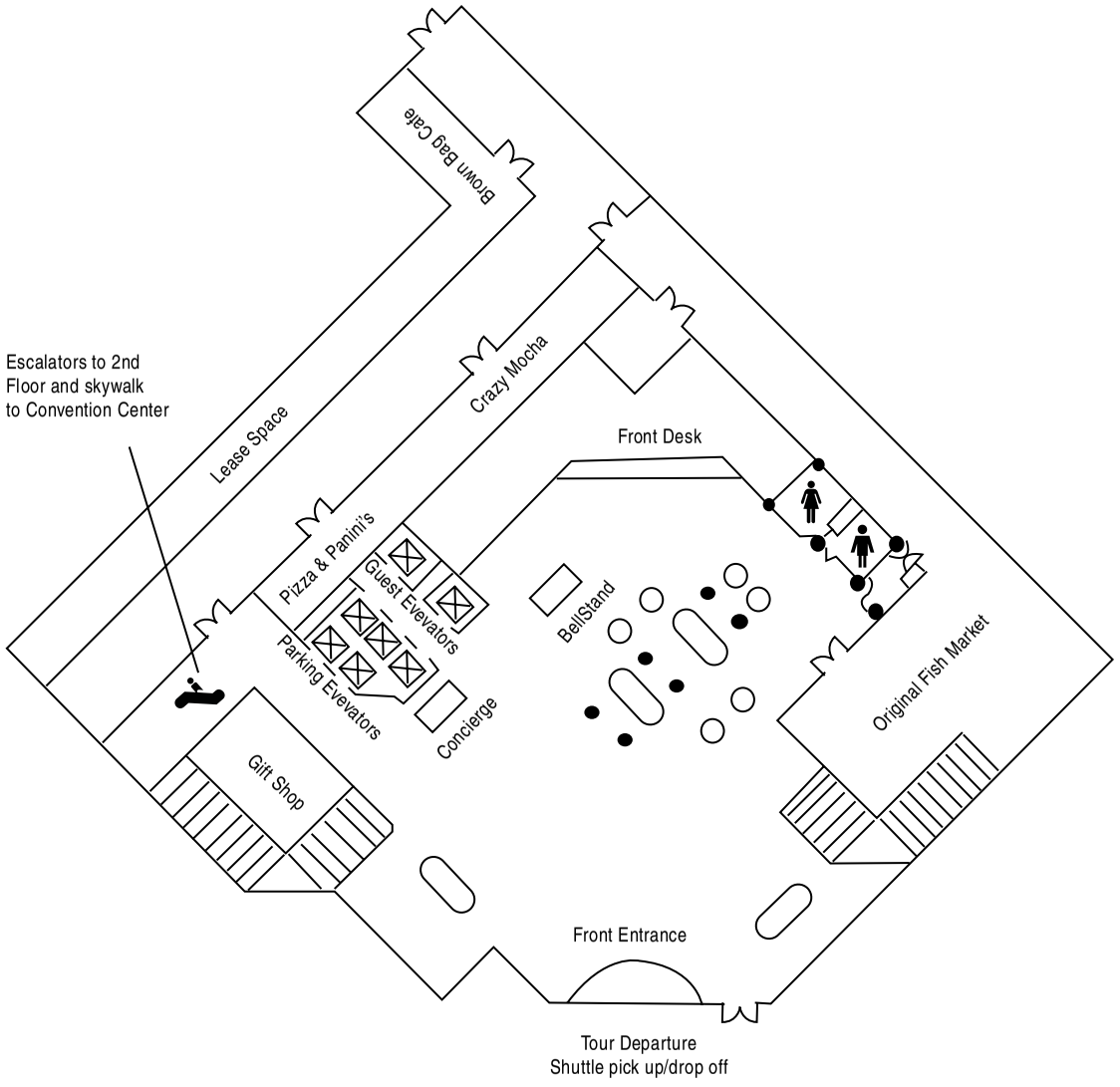
Where's That Meeting Room?

W = Westin C = Convention Center

ROOM NAME	LOCATION
C-301	Level 3
C-302	Level 3
C-303	Level 3
C-304	Level 3
C-305	Level 3
C-306	Level 3
C-307	Level 3
C-308	Level 3
C-310	Level 3
C-311	Level 3
C-314	Level 3
C-315	Level 3
C-316	Level 3
C-317	Level 3
C-318	Level 3
C-319	Level 3
C-320	Level 3
C-321	Level 3
C-401	Level 4
C-402	Level 4
C-403	Level 4
C-404	Level 4
C-405	Level 4
C-406	Level 4
W-Allegheny 1	Level 3
W-Allegheny 2	Level 3
W-Allegheny 3	Level 3
C-Ballroom Foyer	Level 3
W-Butler East	Level 2
W-Butler West	Level 2
W-Cambria East	Level 2
W-Cambria West	Level 2
W-Crawford East	Level 3
W-Crawford West	Level 3
W-Suite 2515	Level 25
C-East Atrium	Level 3
W-Executive Boardroom	Level 26
W-Fayette	Level 2
W-Lawrence	Level 2
W-Pennsylvania Ballroom East	Level 2
W-Pennsylvania Ballroom West	Level 2
C-Pittsburgh Ballroom A	Level 3
C-Pittsburgh Ballroom B	Level 3
C-Pittsburgh Ballroom C	Level 3
W-Somerset East	Level 2
W-Somerset West	Level 2
W-Washington	Level 2
W-Westmoreland East	Level 2
W-Westmoreland West	Level 2

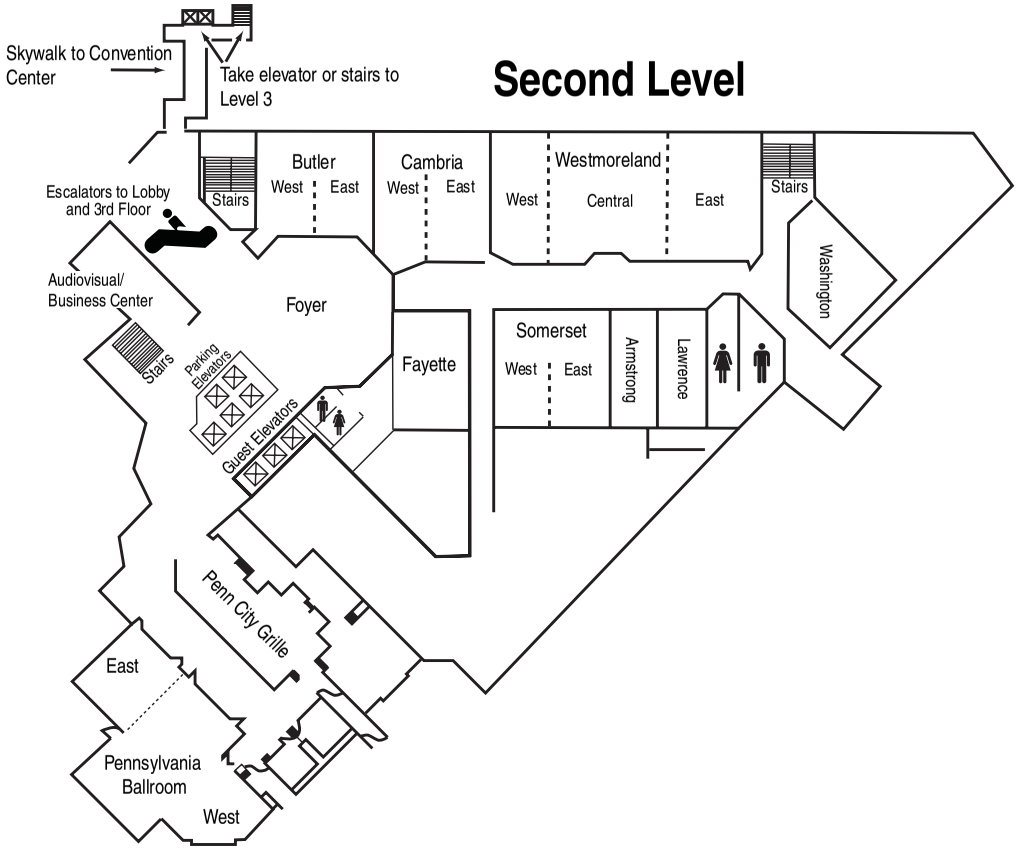
Westin Convention Center Hotel Floorplan

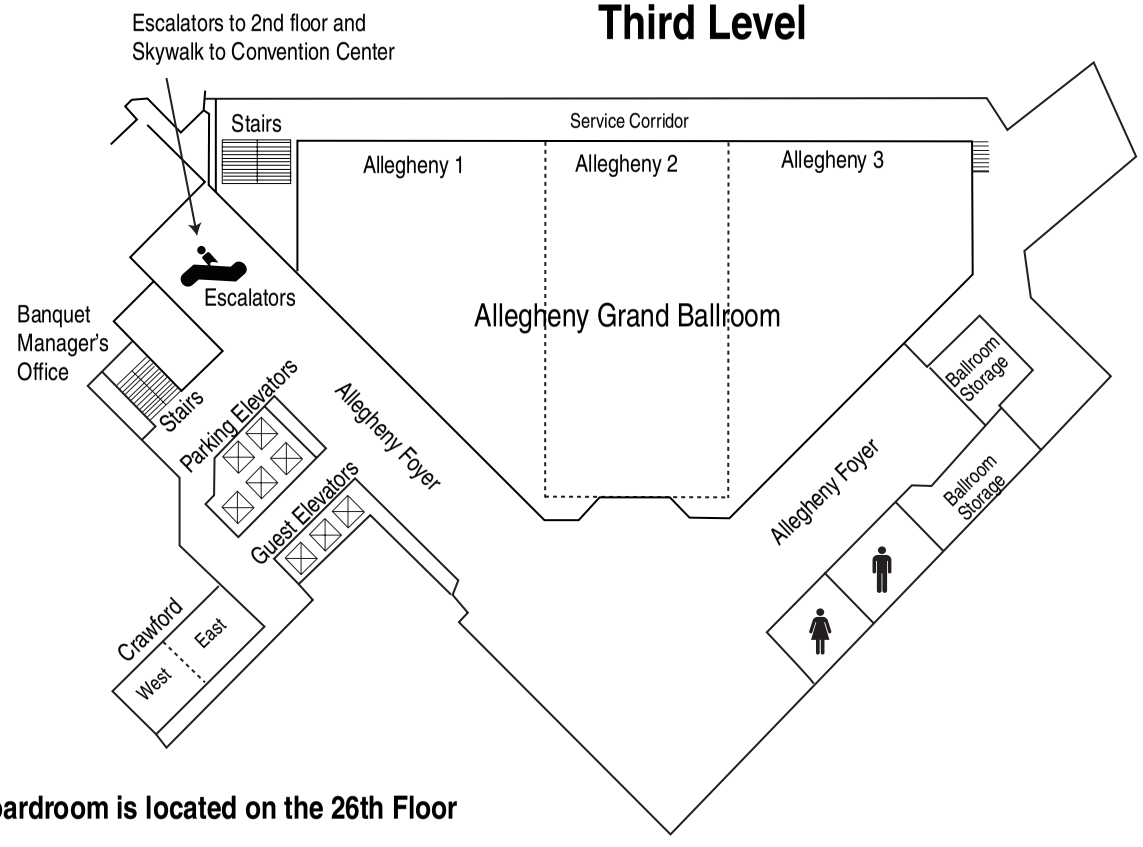
Lobby Level



*** Executive Boardroom is located on the 26th Floor**

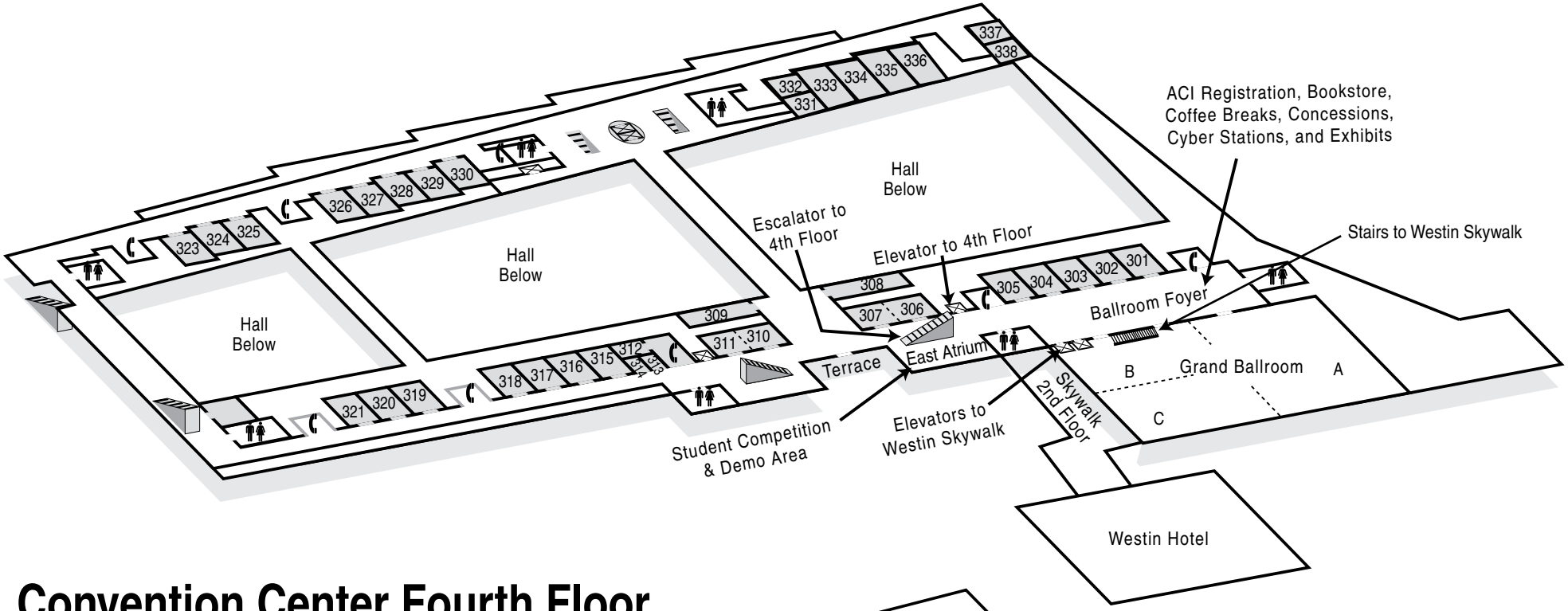
Westin Convention Center Hotel Floorplan



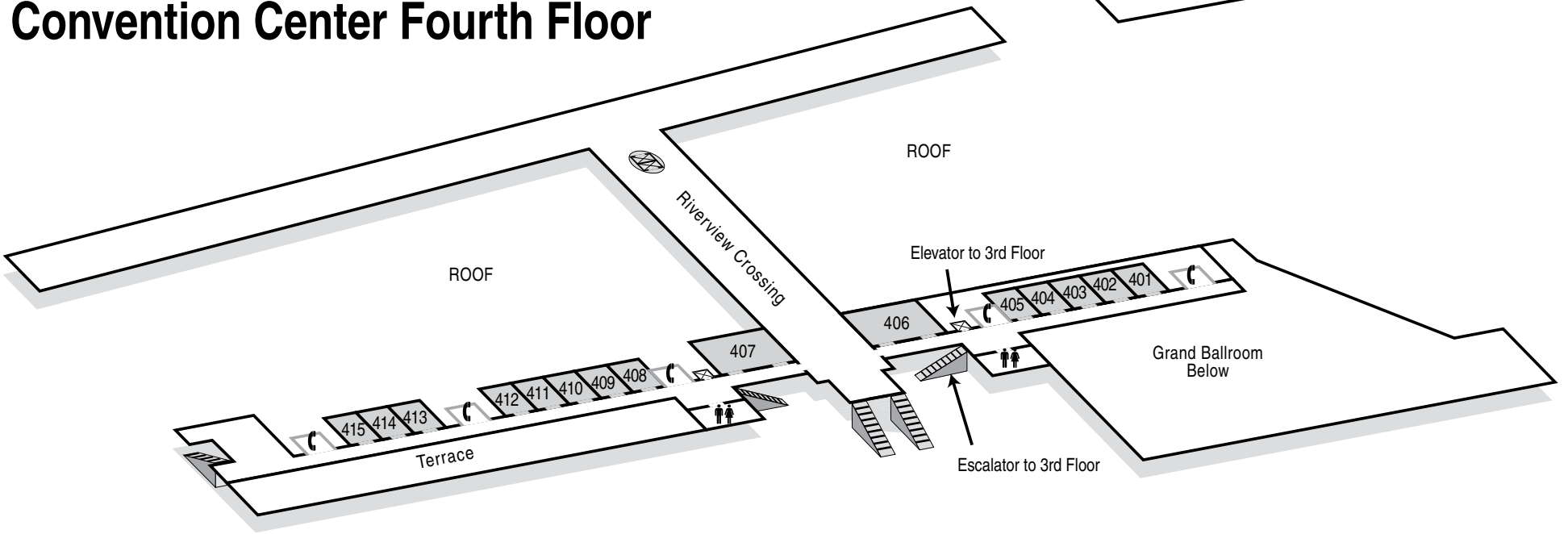


*** Executive Boardroom is located on the 26th Floor**

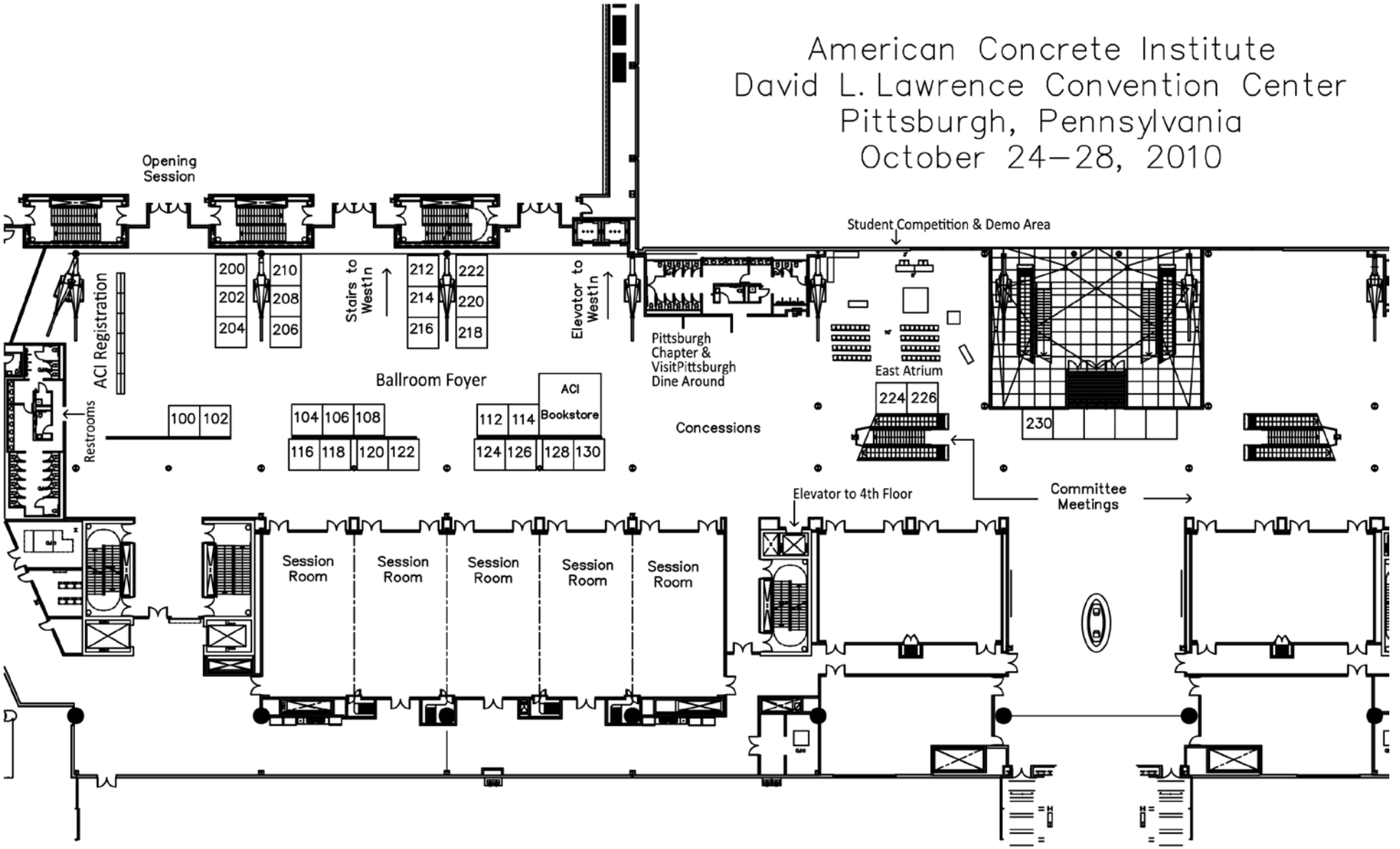
Convention Center Third Floor



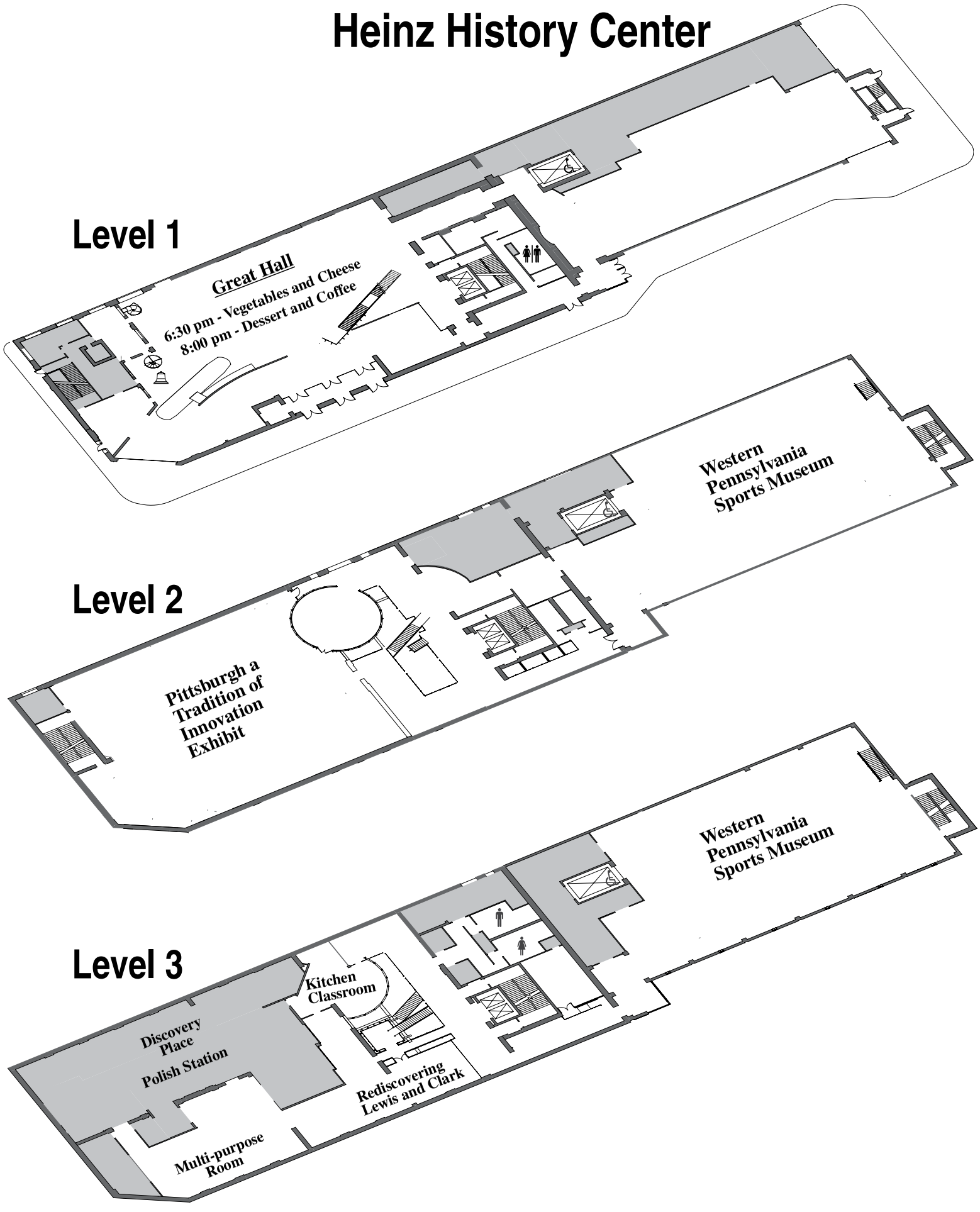
Convention Center Fourth Floor



American Concrete Institute
David L. Lawrence Convention Center
Pittsburgh, Pennsylvania
October 24–28, 2010

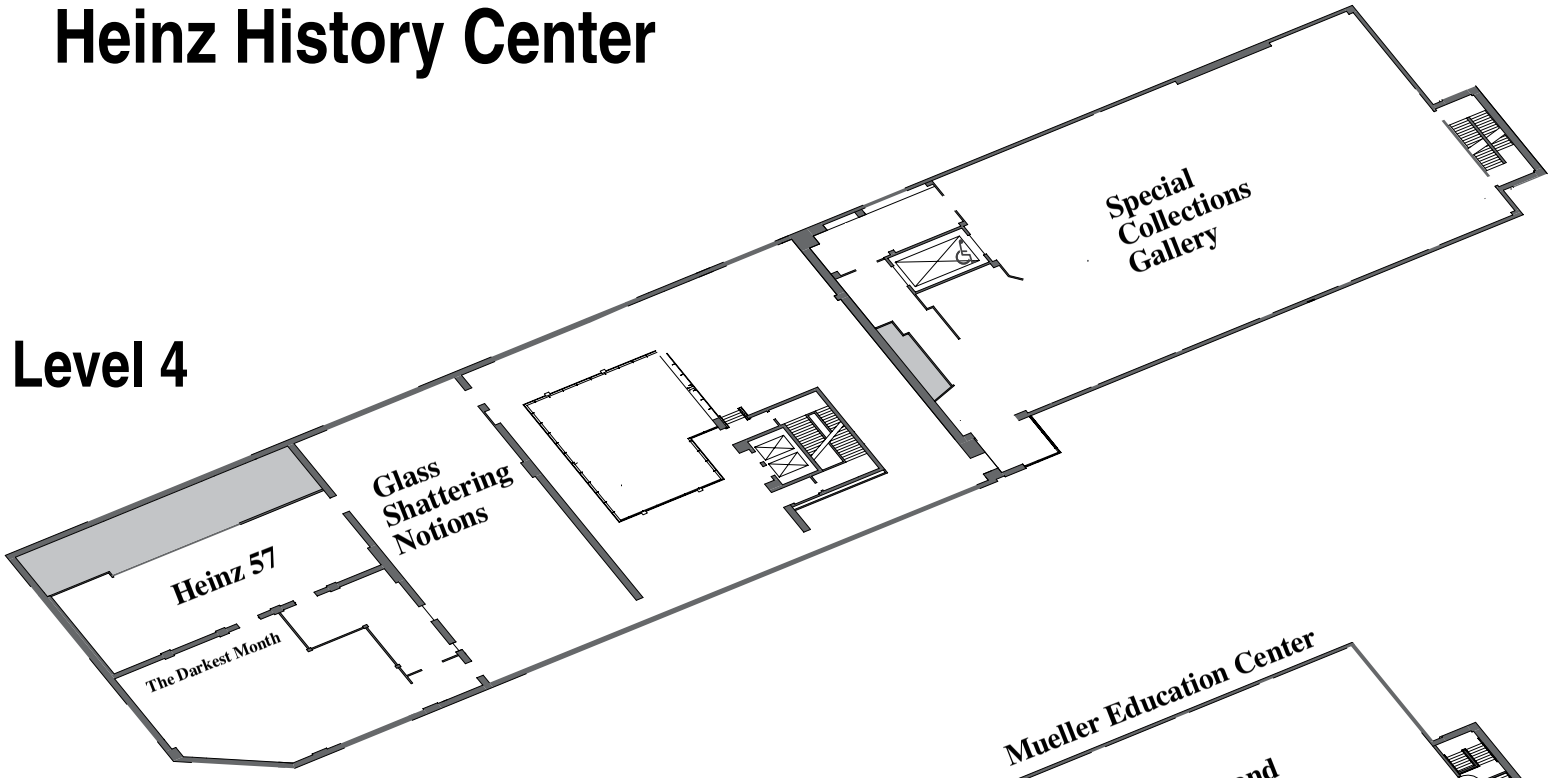


Heinz History Center

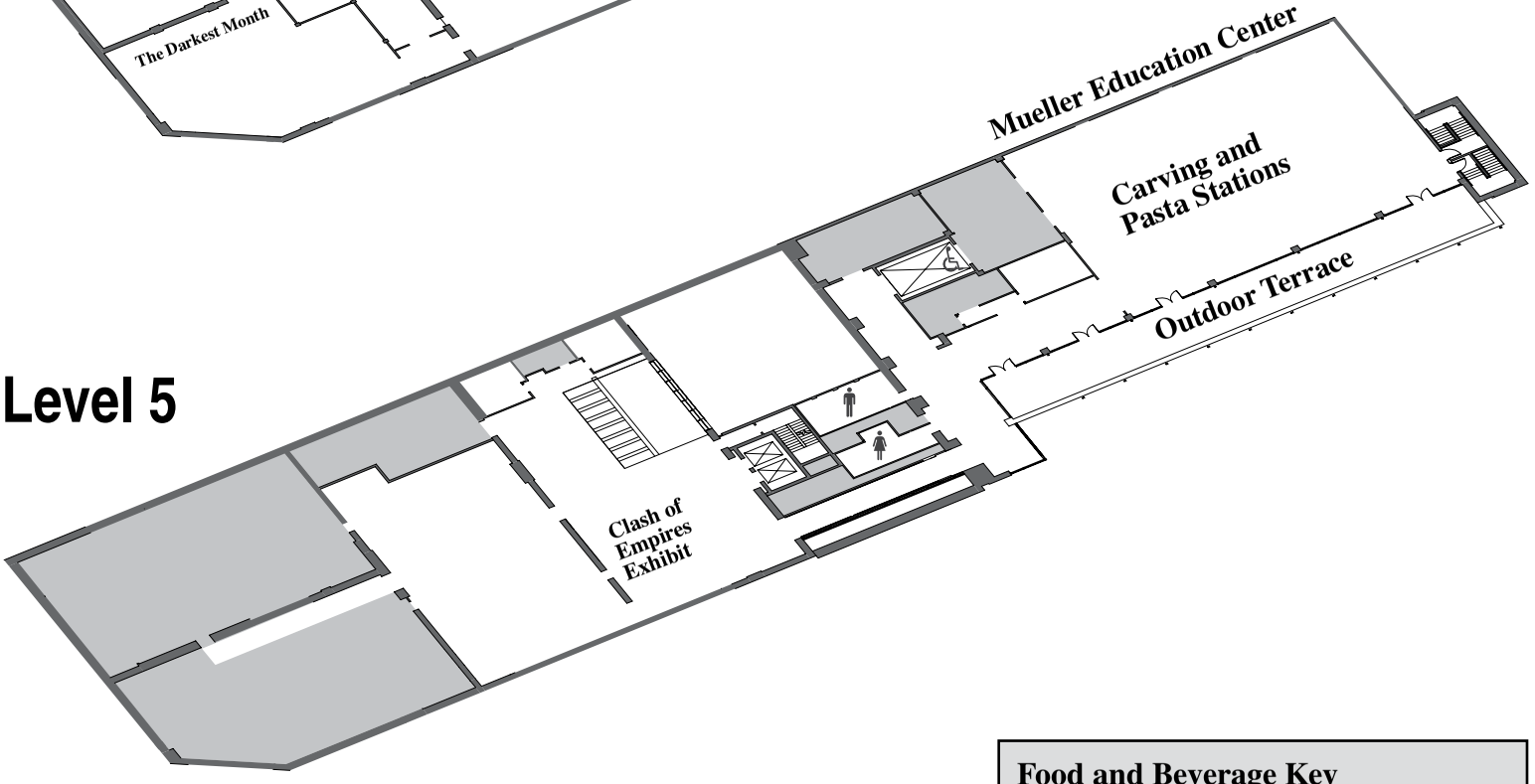


Heinz History Center

Level 4



Level 5



Food and Beverage Key
Food and beverage is spread throughout the museum. Enjoy this progressive dinner.

Level 1
6:30 pm - Vegetable crudité and cheese display
8:00 pm - Dessert and Coffee

Level 3
Polish station

Level 5 - Mueller Center
Carving station
Pasta station

Exhibitors

Exhibitor Listing as of 9/30/10

Exhibits **C-BALLROOM FOYER**

The ACI Pittsburgh Area Chapter and the American Concrete Institute wish to thank the exhibitors for their participation and support of the ACI Fall 2010 Convention.

Exhibit Hours

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

American Concrete Pavement Association-Pennsylvania Chapter; Central Atlantic Bridge Associates; and Pennsylvania Aggregates and Concrete Association **Booth #210**

The Pennsylvania Chapter of the American Concrete Pavement Association represents concrete pavement construction and rehabilitation contractors, cement companies, and other material suppliers, equipment manufacturers, consultants, and other firms with a vested interest in the use of quality concrete pavements in the Commonwealth. For information about their services, please visit **www.pa.pavement.com**.

Central Atlantic Bridge Associates (CABA) is an industry association that has grown out of the Prestressed Concrete Association of Pennsylvania (PCAP). It represents prestressed concrete beam fabricators in the mid-Atlantic region. PCAP has been operating since 1957 and has been doing business as CABA since 2008. Visit the Association Web site at **www.caba-bridges.org**.

The Pennsylvania Aggregates and Concrete Association (PACA) is a trade association representing the interests of over 200 member companies producing ready mixed concrete, portland cement, crushed stone, sand, and gravel in the Commonwealth of Pennsylvania. PACA, through its concrete promotion arm, the Pennsylvania Concrete Promotion Council, is focused on engaging the specifier community through face-to-face interaction, seminars, and a Web presence on the benefits of concrete, especially in parking lot applications. For more information, visit **www.specifyconcrete.org**.

Exhibitors

Exhibitor Listing as of 9/30/10

BASF Construction Chemicals, LLC **Booth #114**
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 is comprised of 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. Contact BASF Construction Chemicals at 800-628-9990 or visit **www.masterbuilders.com**.

Burgess Pigment Company **Booth #216**
Burgess produces a highly reative metakaolin, Burgess OPTIPOZZ, a supplementary cementitious material, for high strength cement, improved chemical resistance, durability, shrinkage and efflorescence control, reduced cracking, and improved whiteness, finishing, and trowelability. For more information, visit **www.burgesspigment.com**.

Calmetrix **Booth #226**
Calmetrix designs and markets calorimetry equipment and software for use in research, mixture optimization, and quality control of cement and concrete. Its team of professionals have backgrounds in software and equipment design, as well as a deep understanding of the construction industry, cement, and concrete chemistry. For more information, visit **www.calmetrix.com**.

Carmeuse Lime & Stone **Booth #224**
Concrete producers who need to reduce costs need to talk to us! Carmeuse is the manufacturer of PREMIACAL Engineered Milled Limestone, a concrete additive that will save money without sacrificing performance. Whether it is reducing cementitious content or increading early strength, PREMIACAL keeps you in control of your mix design. For more information, visit **www.carmeusena.com**.

Exhibitors

Exhibitor Listing as of 9/30/10

CMEC, Inc. **Booth #128**

The Construction Materials Engineering Council, Inc., (CMEC) is a not-for-profit organization whose goal is to improve the quality of production, inspection, and testing of construction materials through its many accreditation, education, and certification programs. CMEC inspects and accredits laboratories in the United States, Canada, Honduras, Dominican Republic, Puerto Rico, and Mexico, and distributes its educational materials worldwide. For additional information, visit **www.cmec.org**.

CTLGroup **Booth #230**

CTLGroup is an internationally recognized professional consulting and testing firm that provides engineering and scientific services to clients in the Buildings & Facilities, Energy & Resources, Litigation & Insurance, Materials & Products, and Transportation industries. Our unmatched ability to deliver for clients on all these elements is what makes CTLGroup the industry leader. Visit **www.ctlgroup.com** for more information.

Digital Site Systems, Inc. **Booth #200**

Digital Site Systems, Inc. (DSS) is a Materials Information Technology™ company and the makers of Quadrel® Integral Concrete, Aggregate, and Cement management technologies. Quadrel's quality and cost management modular technologies enable a cost-effective utilization of materials and increase the efficiencies of the industry business processes. The unique Closed Loop Integration® and Quadrel inform™ real-time reporting modules are saving DSS's customers millions of dollars annually by enforcing data integrity and by making better and faster decisions. **Attend a demonstration by Digital Site Systems, Inc. on Monday, October 25 at 9:00 am. They will demonstrate the powerful Quadrel features for managing and optimizing concrete mixtures and materials. They will also provide examples of closed-loop integration and how it allows customers to have a 360-degree view of their business as it relates to production costs and mixture and material performance**.

Exhibitors

Exhibitor Listing as of 9/30/10

Diversakore **Booth #214**

Diversakore has developed a family of composite beams and columns that uses the compressive strength of concrete combined with the tensile benefits of steel to develop a structural frame with open floorplans and shallow section depths. The composite beams/columns act as a permanent form and are poured with high-strength concrete during the construction process. The horizontal slab is constructed using PT slab, hollowcore plank, or long-span metal deck. Structural topping for the slab is poured monolithically with the beams/columns to improve speed of construction. The Diversakore system has an approved two-hour UL fire rating, which eliminates the need for fire spray of the members. The composite nature of the beams and columns carry a high capacity and allow for long spans with shallow beam depths. The shallow section depth minimizes overall height of the structure, saving costs in skin and vertical elements. Bolted connections are used to improve the speed of construction, and final design connection strength is developed through concrete and shear friction bars at the beam/column intersection. Visit **www.diversakore.com** for more information.

ElectroTech CP **Booth #100**

ElectroTech CP is a unique organization that specializes in applying engineered solutions to corrosion problems. ElectroTech CP possesses skills and experience not only in diagnosing corrosion problems, but also in designing optimal countermeasures for corrosion control. For additional information, visit **www.cpmonitoring.com**.

Elemix Additive **Booth #116**

Elemix concrete additive uses advanced polymer technology to deliver stronger, longer-lasting, more efficient concrete applications. Available globally, with consistency, Elemix additive provides concrete designers and manufacturers with an edge over the competition. **Attend a presentation from Elemix Additive and Synthenon Inc., on "The Assessment of Lightweight Synthetic Particles for Code Compliance," on Monday, October 25 at 1:30 pm in C-EAST ATTRIUM. For additional information, visit www.elemix.com.**

Exhibitors

Exhibitor Listing as of 9/30/10

Essroc Italcementi Group **Booth #122**
Essroc, headquartered in Nazareth, PA, is a member of the Italcementi Group, the fifth largest cement producer in the world. Essroc, a leading producer of cement, concrete, and related materials, continues to deliver superior value by providing quality and innovative products and services. For additional information, visit **www.essroc.com**.

The Euclid Chemical Co. **Booth #206**
The Euclid Chemical Co., founded in 1910, is a worldwide supplier of quality products and services for the concrete and masonry industry. Euclid offers a full line of admixtures, and repair and maintenance products based on the latest technology. Euclid provides on-site service for guidance on proper product usage as well as complete specification assistance and laboratory support. To learn more about The Euclid Chemical Co., visit **www.euclidchemical.com**.

Fibercon International Inc. **Booth #222**
Fibercon low-carbon steel fibers (1 in. and 2 in. lengths) are incorporated into the concrete mixture to provide temperature and shrinkage reinforcement for slabs-on-ground, composite metal deck, and shotcrete applications such as tunnel linings and slope stabilization. To improve bonding of the fibers, to the concrete matrix, fibers are either continuous or end deformed. The fibers unique design allows for easy batching and finishing. Fibercon's Computer Design program allows for easy determination of fiber dosage for all applications. For more information about Fibercon International, visit **www.fiberconfiber.com**.

FORTA Corporation **Booth #218**
Founded in 1978, FORTA is the oldest synthetic fiber reinforcement producer in the world. Celebrating 32 years, FORTA Corporation has grown to become a worldwide leader in synthetic fiber research and development. The most recent innovations are FORTA-FERRO, a macrofiber to replace a higher level of conventional steel reinforcement, and FORTA Green-Net, and eco-friendly fiber made from recycled polypropylene. For additional information, visit **www.forta-ferro.com**.

Exhibitors

Exhibitor Listing as of 9/30/10

Germann Instruments, Inc. **Booth #'s 104/106**
Germann Instruments is the leader in nondestructive testing (NDT) of concrete structures. Their cutting-edge, innovative product line includes: advance NDT equipment for concrete testing. For structural integrity—Impact-Echo, Mash, MIRA/Eyecon 3-D Shear Wave Systems. Durability—Service Life, Rheometer, PROOVEit, Chloride & Profile. Freeze-thaw—EVA Analyzer & RapidAir. Fast-track construction—LOK-TEST, Coma-Meter. Corrosion survey—GalvaPulse, RapiCor. Repair quality—Bond-Test, CorroEye. Visit **www.germann.org** for additional information. **Attend a presentation from Germann Instruments, Inc., on "Pull-Out Testing for Compressive Strength of In-Place Concrete," on Monday, October 25 at 9:45 am; "Pavement and Bridge Testing with Impulse Response and Impact-Echo," on Tuesday, October 26 at 9:00 am; "Testing for Chlorides in Concrete Structures," on Tuesday, October 26 at 2:15 pm.**

Grace Construction Products **Booth #108**
Headquartered in Cambridge, MA, Grace Construction Products is a worldwide leading manufacturer of concrete admixtures and fibers, liquid pigments for colored concrete; cement processing additives; concrete masonry products; air and vapor barriers; roofing underlayments; self-adhered window, door and deck flashings; structural waterproofing systems; and fire protection products. Visit **www.graceconstruction.com** for additional information.

Materials Advanced Services Ltd. **Booth #202**
Materials Advanced Services is a company providing high-standard, innovative products and services to the concrete construction industry. This exhibit we will show a live operation of the "PermeaTORR," a nondestructive instrument capable of measuring the air-permeability of concrete on site and in the lab in up to 6 minutes. **Attend a presentation by Materials Advanced Services Ltd. on Tuesday, October 26 at 1:30 pm. The presentation will highlight the importance of checking the permeability on site as a means to assess the "true" durability potential of a concrete element. This, in contrast/complementation of tests performed on cast specimens, not fully representative of the quality achieved on site. Swiss Standard SIA 262 is presented as an example of this approach.**

Exhibitors

Exhibitor Listing as of 9/30/10

Olson Engineering, Inc. **Booth #204**
Olson Engineering specializes in nondestructive evaluation (NDE), infrastructure condition assessment and repair, structural health monitoring, and geophysical and vibration engineering. Olson Instruments manufactures ultrasonic, sonic, and seismic instruments for pavements, foundations, and structures as well as seismic surface wave, crosshole, downhole, reflection, and refraction tests, and distributes IDS radar systems in the U.S. **Attend a demonstration by Olson Engineering Inc. on "Sonic, Radar, and Electrical Methods for Imaging Concrete and Rebar," on Tuesday, October 26 at 12:45 pm in C-EAST ATRIUM.** For additional information, go to **www.olsonengineering.com**.

Proceq USA Inc. **Booth #102**
Proceq USA Inc., the global leader in the design and manufacturing of high-quality, portable, nondestructive testing (NDT) instruments, will be displaying many of its latest and most innovative products. This includes the Silverschmidt Concrete Test Hammer, Pundit Lab Ultrasonic Testing Instrument, Profometer 5 and Profoscope Series Rebar Locators, and DYNA Pull-Off Tester. **Attend a presentation by Proceq USA, "Introducing the New Pundit Lab Ultrasonic Pulse Velocity (UPV) Instrument," on Monday, October 25 at 12:45 pm in C-EAST ATRIUM.** Visit **www.proceq-usa.com** for additional information.

Pultrall **Booth #126**
Pultrall manufactures V-ROD reinforcing bars by combining the pultrusion process and an in-line coating process for the outside, sanded surface. The company's manufacturing processes meet ISO 9001-2000 standards. In addition, in-house quality control tests are routinely performed along with tests performed by independent laboratories. V-ROD composite reinforcing bar has been manufactured by Pultrall since 1987. The FRP composite reinforcing bar is made from high-strength glass fibers and an extremely resistant vinyl ester resin. The glass fibers impart strength to the rod while the vinyl ester resin imparts excellent corrosion resistance properties in harsh chemical and alkaline environments. For additional information, visit **www.pultrall.com**

Exhibitors

Exhibitor Listing as of 9/30/10

RJ Lee Group, Inc. **Booth #120**
RJ Lee Group, Inc., is an industrial forensics firm specializing in EH&S, quality control, and materials research and development issues. Our Construction Materials Group provides forensic engineering and analytical testing services that allow designers and construction teams to minimize materials replacements, reduce likelihood of deterioration, and avoid potential failures. Our service life modeling capabilities support marine, transportation, nuclear, and other critical infrastructure systems. **Attend a presentation from RJ Lee Group on Fly Ash: A Particle-by-Particle Analysis, Tuesday, October 26 at 10:30 am in C-EAST ATRIUM.**

SAS Stressteel, Inc. **Booth #124**
SAS Stressteel, Inc., provides innovative products and solutions for the construction industry. SAS thread bar sizes from #5 to #24 in grades 75/80, 97 and 150 ksi are use in a wide range of applications such as high-strength reinforcing bar for concrete structures and geotechnical systems. Visit **www.stressteel.com** for more information.

Silica Fume Association **Booth #130**
The Silica Fume Association provides high-performance concrete information to the construction industry. A valuable waste material for today's sustainable concrete mixtures. Learn more about the Silica Fume Association by visiting **www.silicafume.org**.

SIMCO Technologies, Inc. **Booth #118**
SIMCO Technologies 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 those vested in developing safe, sustainable, and cost-effective concrete structures. For more information, visit **www.simcotechnologies.com**.

Tekla, Inc. **Booth #208**
Tekla Structures is the leading Building Information Modeling tool for the concrete industry. Come see how this easy-to-use tool models all concrete and reinforcing bar, produces rapid take-offs, and generates all your drawings. Visit **www.tekla.com** for more information.

Exhibitors

Exhibitor Listing as of 9/30/10

Vector Corrosion Technologies **Booth #112**
Vector Corrosion Technologies offers a portfolio of solutions for concrete corrosion repair and protection. Innovative solutions include electrochemical chloride extraction, cathodic protection, and an array of galvanic protection systems, including embedded galvanic anodes, galvanic jackets, and activated arc-spray zinc metalizing. Vector also provides evaluation, repair, and mitigation services for post-tension corrosion and temperature-resistant composite strengthening systems. Contact Vector at 813-830-7566 or visit **www.vector-corrosion.com**.

Xypex Chemical Corporation **Booth #220**
For over 30 years, Xypex's proprietary Crystalline Technology has set an international standard of excellence in concrete waterproofing and protection. Backed by a distribution/service network in more than 70 countries, Xypex's diverse and reliable product line is available wherever and whenever needed. Visit **www.xypex.com** for more information.

Ytterberg Scientific Inc. **Booth #212**
For nearly 100 years, the name Ytterberg has been directly associated with leading products, processes, and service in the concrete flooring industry. Our customers are always looking for ways to save time and money. The FloorPro® with TruFlat® Software allows you to do both. YSI has developed revolutionary tolerancing instruments that have become world-famous and ensure you effectively supply the best reports on the market today. Stop by our booth to see the instruments and how they work! **Attend a presentation by Ytterburg, "Introduction to the FloorPro Floor Flatness Test Instrument and Accompanying TruFlat Software," on Monday, October 25 at 10:30 am in C-EAST ATRIUM.** For more information, please visit **www.flatfloors.com**.

Demonstrations
Monday, October 25, 2010

C-EAST ATRIUM

Digital Site Systems, Inc. **9:00 am**
Attend a demonstration by Digital Site Systems, Inc. They will demonstrate the powerful Quadrel features for managing and optimizing concrete mixtures and materials. They will also provide examples of closed-loop integration and how it allows customers to have a 360-degree view of their business as it relates to production costs and mixture and material performance.

Germann Instruments, Inc. **9:45 am**
Attend a presentation from Germann Instruments, Inc., on "Pull-Out Testing for Compressive Strength of In-Place Concrete."

Ytterberg Scientific Inc. **10:30 am**
Attend a presentation by Ytterburg, "Introduction to the FloorPro Floor Flatness Test Instrument and Accompanying TruFlat Software."

Calmetrix **12:00 pm**
Attend a two-part presentation by Calmetrix, "Calorimetry for QL and Mix Design Optimization, and "In-Boiler Fly Ash Beneficiation—A High-Strength SCM"

Proceq USA Inc. **12:45 pm**
Attend a presentation by Proceq USA, "Introducing the New Pundit Lab Ultrasonic Pulse Velocity (UPV) Instrument."

Elemix Additive **1:30 pm**
Attend a presentation from Elemix Additive and Synthenon Inc., on "The Assessment of Lightweight Synthetic Particles for Code Compliance."

Tuesday, October 26, 2010

Germann Instruments, Inc. **9:00 am**
Attend a presentation from Germann Instruments, Inc., on "Pavement and Bridge Testing with Impulse Response and Impact-Echo."

Demonstrations
Tuesday, October 26, 2010

C-EAST ATRIUM

RJ Lee Group, Inc. **10:30 am**

Attend a presentation from RJ Lee Group on "Fly Ash: A Particle-by-Particle Analysis."

Since the devastating coal ash spill at the Tennessee Valley Authority's Kingston facility in December 2008, the EPA has moved to take a more aggressive stance toward the management and use of coal combustion residuals (CCR), including fly ash. Modifications of what has typically been characterized as beneficial uses of fly ash, including its use as a filler, raw material, and feed stock to cement, concrete, and asphalt mix designs, may present significant challenges to industry. Further, this revived interest in fly ash and other CCRs has in turn created a demand for more comprehensive fly ash characterization methods. Traditional methods of analysis, such as X-ray florescence, X-ray diffraction, optical microscopy, and laser particle size analysis, only look at a single aspect of the material being analyzed. Computer-controlled scanning electron microscopy (CCSEM) is the only technique that offers chemistry, morphology, and particle size from a single automated analysis. This efficient technique can be used to characterize powder materials such as fly ash (pure or blended). This demonstration will show how CCSEM can be applied to characterize fly ash for quality control and toxic contaminant control in cement applications or in forensic investigations.

Calmetrix **12:00 pm**

Attend a two-part presentation by Calmetrix, "Calorimetry for QL and Mix Design Optimization, and "In-Boiler Fly Ash Beneficiation—A High-Strength SCM"

Olson Engineering, Inc. **12:45 pm**

Attend a demonstration by Olson Engineering, Inc. on "Sonic, Radar, and Electrical Methods for Imaging Concrete and Rebar."

Materials Advanced Services Ltd. **1:30 pm**

Attend a presentation by Materials Advanced Services Ltd. The presentation will highlight the importance of checking the permeability on site as a means to assess the "true" durability potential of a concrete element.

Germann Instruments, Inc. **2:15 pm**

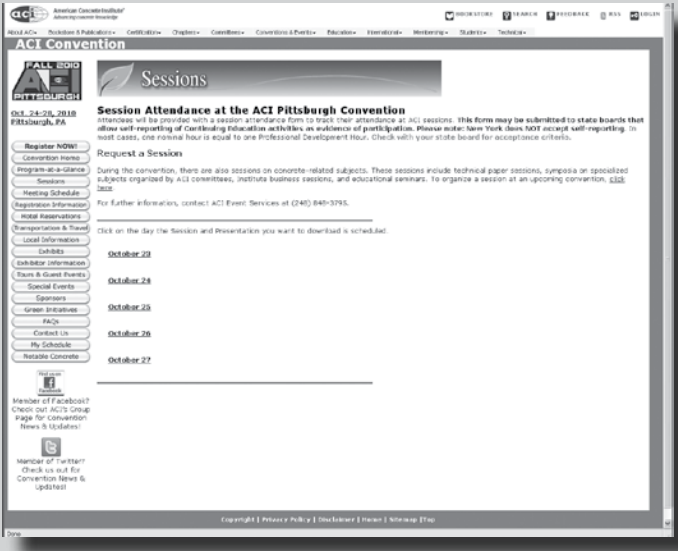
Attend a presentation from Germann Instruments, Inc., on "Testing for Chlorides in Concrete Structures."

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 Web site.

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

Can't find what you're looking for? Continue to check the Web site after the convention—additional presentations and handouts will be posted. Handouts and presentations will be posted on the Web site until December 2010.



Special Events
Saturday, October 23, 2010

ACI Concrete Sustainability Forum III **C-406**
Sponsored by 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
Chair of ISO/TC 71/SC 8 and Professor
Kagawa University
Takamatsu, Japan

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

As construction in the BRICs (Brazil, Russia, India, and China) and other developing countries increases, the associated consumption of energy and resources will also increase. Attendees to the ACI Concrete Sustainability Forum III will be provided with a comprehensive overview of the current world situation, including the latest information from countries that are pioneering concrete sustainability, and will participate in discussions on future action regarding sustainability opportunities (both in the U.S. and internationally) for the concrete industry. This forum will reflect the development of ISO/TC 71/SC 8 standards and provide attendees with knowledge and resources to identify opportunities in their careers, ACI committee work, and work with other organizations to reduce environmental impacts and foster a concrete industry focused on sustainability.

ACI is a U.S. Green Building Council (USGBC) Education Provider and is committed to enhancing the ongoing professional development of the building industry and LEED Professional through high-quality education programs. As a USGBC Education Provider, ACI has agreed to abide by USGBC-established operational and educational criteria, and is subject to annual reviews and audits for quality assurance.

GBCI CMP

USGBC has approved this session for 4 GBCI CE hours toward the LEED Credentialing Maintenance Program. **To receive credit, you MUST see the session monitor at the back of the room to sign in and out**.

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

Attention Architectural License Holders!
If you have an architectural license and would like Continuing Education Credit through AIA, please see the session monitor at the back of the room to obtain a copy of Form C. Return completed forms to ACI Registration.

Special Events
Sunday, October 24, 2010

Convention #1 Breakfast **W-ALLEGHENY 1**
8:00 am-9:00 am
Sponsored by the ACI Convention Committee

Session Moderator: Kari Yuers
President & CEO
Kryton International, Inc.
Vancouver, BC, Canada

First-time convention attendees are invited to join Kari Yuers, Chair of the ACI Convention Committee, for a continental breakfast and a brief session to orient you to the week ahead. Attendees will also have the opportunity to meet other convention attendees.

✓**International Lunch** **W-WESTMORELAND**
12:00 pm-2:00 pm
$30 U.S per person
Hosted by the ACI International Committee

Speaker: Xuehui An
Professor
Tsinghua University
Beijing, China

Topic: China, the World's Largest Concrete Market, is Tackling Sustainability Issues

Global warming caused by excessive emissions of CO_2 has attracted great attention around the world. Professor Xuehui An, of the State Key Laboratory of Hydroscience and Engineering, will discuss what is being done to reduce China's carbon footprint in major building, transportation, energy, and water supply construction projects. Using dam construction as an example, he will present the development of low-carbon concrete construction technologies and include a procedure to estimate carbon abatements. A new type of dam construction technology, rock-filled concrete (RFC), will also be presented as an example of sustainable concrete construction development in China.

✓= separate fee required

Special Events
Sunday, October 24, 2010

Student Egg Protection Device Competition **C-EAST ATRIUM**
12:00 pm-5:00 pm
Pervious Concrete Competition sponsored by ACI Committee S801, Student Activities, and the ACI Pittsburgh Area Chapter

Session Moderator: Lawrence H. Taber
Structural Engineer
Black & Veatch
Overland Park, KS

ACI's nationally recognized Student Competitions offer students the opportunity to participate in interesting and educational concrete projects. This fall, students will compete in the Egg Protection Device Competition, where they will design and build the highest-impact load-resistant plain or reinforced concrete egg protection device.

Special Events
Sunday, October 24, 2010

Opening Session and Hardy Cross
Commemorative Lecture Series **C-PITTSBURGH BALLROOM B & C**
5:15 pm-6:30 pm
The ACI Fall 2010 Convention officially begins during the Opening Session and Hardy Cross Commemorative Lecture Series. Additionally, the Distinguished Achievement and Jean-Claude Roumain Awards will be presented.

Edward Finkel, President of Edward B. Finkel Associates will deliver a lecture titled "The Artful Professor" as part of the Hardy Cross Lecture Series. During this lecture, personal reflections and reminiscences of Professor Cross will be discussed, including his remarkable innovations in the field of structural engineering. Cross's influential role in the concrete construction industry, including his teaching principles associated with visualization, scale, and order of magnitude—reduced to simple arithmetic approximations—will be discussed.

Opening Reception **C-BALLROOM FOYER**
6:30 pm-7:30 pm
Sponsored by the ACI Pittsburgh Area Chapter

After the Opening Session, enjoy a beverage from a cash bar and light refreshments in the exhibit area. It's a great place to catch up with friends, network with concrete professionals, talk with exhibitors, and meet new convention attendees. This is definitely a networking opportunity you won't want to miss!

Student and Young Professional
Networking Event **SHARP EDGE BISTRO**
9:00 pm-10:30 pm **922 Penn Avenue**
Sponsored by the ACI Collegiate Concrete Council and Student and Young Professional Activities Committee

The ACI Collegiate Concrete Council and 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, the bar will be open for attendees desiring to purchase food and beverages.

Special Events
Monday, October 25, 2010

✓**Student Lunch** **C-PITTSBURGH BALLROOM B & C**
12:00 pm-2:00 pm
$35 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 Pittsburgh Area Chapter and ACI Committee S801, Student Activities

Speakers:

Chris Hendrickson
Duquesne Light Company
Professor of Engineering
Carnegie Mellon University
Pittsburgh, PA

Melissa Bilec
Assistant Professor
University of Pittsburgh
Pittsburgh, PA

Mark Snyder
President
International Society for Concrete Pavements
Vice President, ACPA
Pennsylvania Chapter
Pittsburgh, PA

Topic: Sustainability: Systems, Buildings, and Materials

Three leading experts in the area of sustainability will provide insight and perspective on how sustainability can be better incorporated into design decisions made by civil engineers. This informative lunch will help you to understand how sustainability is becoming a widely spread social objective, the intent of green building rating systems, and why concrete is the sustainable material of choice for many construction applications.

Awards for the Student Egg Protection Device Competition will also be presented.

✓= separate fee required

Special Events
Monday, October 25 and Wednesday, October 27, 2010

Tour of RJ Lee Group's Laboratory **DEPART WESTIN LOBBY**

In conjunction with the ACI convention, RJ Lee Group, Inc., will be hosting a FREE tour of its Monroeville laboratory, located just outside of Pittsburgh. The tour will present the lab's capabilities for diverse specialized analyses as well as the traditional analyses of construction materials. Topics discussed during the tour include:

- Real-time problem solving during construction
- Petrography beyond optical techniques
- Corrosion analysis
- Specialized testing
- Designing for durability and longevity

The tour will be offered on two dates:

October 25: 1:30 pm-4:30 pm
October 27: 9:00 am-12:00 pm

Transportation will be provided by RJ Lee Group. **Pre-registration by October 15, 2010 was required**. For questions, please contact Katherine Stein at (724) 387-1916 or kstein@rjlg.com.

Special Events
Monday, October 25, 2010

✓Dinner/Dance Cruise **DEPART SIXTH STREET DOCK**
6:00 pm-9:30 pm
$75 U.S. Per person

Cruise Pittsburgh's three rivers with friends, colleagues and other convention attendees on the Gateway Clipper Fleet's *Empress* for an evening of great food, music, and dancing.

The *Empress* will depart from the Sixth Street Dock approximately four blocks from the Westin. **Guides will be placed along the way to point you in the right direction. Comfortable walking shoes are recommended. For those who are unable to walk, transportation will be provided. See page 136 for additional details.**

Special Events
Tuesday, October 26, 2010

✓Contractors' Day Lunch **W-WESTMORELAND**
12:00 pm-2:00 pm
$40 U.S. per person
Hosted by the ACI Pittsburgh Area Chapter and the Construction Liaison Committee

Speaker: Eric Hayes
Assistant Project Manager
Walsh Construction
Freedom, PA

Topic: Allegheny River Project

Join other ACI attendees and contractors for the Contractors' Day Lunch. Following lunch, Eric Hayes of Walsh Construction will give a special presentation on the variations in concrete and the construction of the Pennsylvania Turnpike Allegheny River Bridge.

Concrete Mixer **HEINZ HISTORY CENTER**
6:30 pm-10:00 pm
Sponsored by the ACI Pittsburgh Area Chapter

Have you ever wondered what Pittsburgh looked like 250 years ago? From the pre-revolutionary French and Indian War to the legendary expedition of Lewis and Clark, discover the history of Pittsburgh during the Concrete Mixer held at the Senator John Heinz History Center. In association with the Smithsonian Institute, the Heinz History Center has six floors and over 275,000 square feet of long-term and changing exhibition space that showcases some of the most compelling stories from American history. This adventure into the past is the perfect opportunity to relax, learn, and network as you enjoy delicious food and cocktails throughout the many floors of Pennsylvania's largest history museum. **Refer to your map prior to page 27 for the location of food stations and bars.** Also, the gift shop will be open.

Note: The Heinz History Center is a three-block walk from the Westin Convention Center. Chapter members will be located along the route to direct you from the Westin. For those who cannot walk long distances, there will be shuttles available from the Omni and Westin.

✓= separate fee required

Special Events
Thursday, October 27, 2010

✓Anchorage to Concrete Seminar **W-FAYETTE**
7:30 am registration; coffee and pastries available
8:00 am-5:00 pm
$597 Non-Member Registration Fee
$457 ACI National Members Registration Fee
$125 Full-Time Students (with proof of enrollment)

Speakers: Robert R. McGlohn
Engineering Project Manager
BE&K Engineering
Birmingham, AL

Donald F. Meinheit
Affiliated Consultant
Wiss, Janney, Elstner Associates, Inc.
Chicago, IL

This seminar will cover the basic ACI design framework for anchorage to concrete; the background of ACI 318-08, Appendix D; several design examples using the provisions in ACI 318-08, Appendix D; and the background behind ACI 355.2-07 anchor qualification requirements. After listening to knowledgeable instructors and working through both simple and more complex problems, you should have the tools you need to design structural connections to concrete using the anchorage provisions of ACI 318-08 with confidence. Engineers, architects, specifiers, and building officials are encouraged to attend this one-day seminar.

Tours and Guest Events

Tour tickets may be purchased until 24 hours prior to the event based on availability.
All tours will depart from the Westin Main Lobby.

Sunday-Wednesday

Guest Hospitality **W-WESTMORELAND**
7:00 am-10:00 am
Use the ticket behind your name badge to gain entry to Guest Hospitality. You must be a registered guest to attend.

Suite open **W-SUITE 2515**
10:00 am-5:00 pm

Sunday, October 24, 2010

Guest Overview **W-WESTMORELAND**
8:00 am-9:00 am
Acquaint yourself with the week ahead! The ACI Pittsburgh Chapter will make a brief presentation. You'll also get a preview of the guest programs for the 2011 conventions in Tampa, FL, and Cincinnati, OH.

✓**Pittsburgh City Tour**
9:30 am-2:00 pm
$80 U.S. per person
This drive-by tour will point out must-see landmarks throughout the city of Pittsburgh, highlighting such attractions as the Strip District, Point State Park, Mr. Rogers memorial, and much more. A stop will be made at Mt. Washington, following which attendees will take the incline down to Grand Concourse in Station Square for lunch and shopping. The tour will conclude in the Oakland area, where you will see Schenley Park, Carnegie Museum, and the campuses of the University of Pittsburgh and Carnegie Mellon University.

Guest Tea **W-WESTMORELAND**
3:00 pm-4:30 pm
Please join Mrs. Deb Hover and Mrs. Lori Barth for afternoon tea. 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.

Opening Reception **C-BALLROOM FOYER**
Approx. 6:30 pm
After the Opening Session, catch up with your old friends and meet new ones while enjoying a beverage from the cash bar and light refreshments in the exhibit area.

✓= separate fee required

Tours and Guest Events

Tour tickets may be purchased until 24 hours prior to the event based on availability.
All tours will depart from the Westin Main Lobby.

Monday, October 25, 2010

✓**Fallingwater and Fort Necessity**
8:00 am-3:15 pm
$100 U.S. per person
This tour will guide you through Fallingwater's numerous terraces and open-air walkways and help you to discover the harmony between the interior and exterior spaces of Frank Lloyd Wright's masterwork. Following the Fallingwater tour, a boxed lunch will be served en route to Fort Necessity. Upon arrival, you will explore the site where The Battle of Fort Necessity took place and learn the story behind this historic landmark. **Please note: Fallingwater is a 90-minute drive one-way from the Westin**.

✓**Dinner/Dance Cruise**
6:00 pm-9:30 pm **DEPART SIXTH STREET DOCK**
$75 U.S. per person
Cruise Pittsburgh's three rivers with friends, colleagues, and other convention attendees on the Gateway Clipper Fleet's *Empress* for an evening of great food, music, and dancing. The *Empress* will depart from the Sixth Street Dock approximately four blocks from the Westin. **Guides will be placed along the way to point you in the right direction. Comfortable walking shoes are recommended. For those who are unable to walk, transportation will be provided.** **See page 136 for additional details.**

Tours and Guest Events

Tour tickets may be purchased until 24 hours prior to the event based on availability.

All tours will depart from the Westin Main Lobby.

Tuesday, October 26, 2010

✓**Clayton Mansion and Phipps Conservatory**
9:30 am-2:30 pm
$90 U.S. per person
This tour will take you through the beautifully restored Clayton Mansion—one of the few intact homes from Pittsburgh's lost Millionaires' Row. After your lunch at the Church Brew Works, you will continue to Phipps Conservatory, one of the world's most energy-efficient and sustainable conservatories. Since 1893, this steel and glass Victorian greenhouse has invited visitors to explore acres of its beautiful and mysterious plant life.

✓= separate fee required

Tours and Guest Events

Tour tickets may be purchased until 24 hours prior to the event based on availability.

All tours will depart from the Westin Main Lobby.

Wednesday, October 27, 2010

✓**Carnegie and Warhol Museum**

9:00 am-3:00 pm

$95 U.S. per person

Explore the Carnegie Museum of Art and Natural History's distinguished collection of contemporary art. The museum features the Hall of Architecture, the largest collection of plaster casts of architectural masterpieces in America. Following lunch at the Spaghetti Warehouse, you will make your way to the Warhol Museum. The Warhol Museum features collections of art and archives of one of the most influential American artists of the twentieth century and acts as a primary resource for anyone looking to explore contemporary art and popular culture.

✓**= separate fee required**

Welcome Convention #1 Attendees

Meet and network with other first timers and veteran convention attendees at these events and gatherings

Sunday

Convention #1 Breakfast **W-Allegheny 1**
8:00 am-9:00 am
Join Kari Yuers, Chair of the ACI Convention Committee, and Convention mentors for a continental breakfast and a brief session to orient you to the week ahead.

Opening Session and Hardy Cross Lecture Series **C-Pittsburgh Ballroom B & C**
5:15 pm-6:30 pm
The ACI Fall 2010 Convention officially begins during the Opening Session and Hardy Cross Commemorative Lecture Series. Convention #1 Attendees will be recognized at this time.

Opening Reception **C-Ballroom Foyer**
Approx 6:30 pm
This is a great place to get to know one another and meet other convention attendees and have some light refreshments.

Monday and Tuesday

Coffee at the Meeting Spot **C-Ballroom Foyer**
8:00 am-8:30 am
Join other Convention #1 Attendees for morning coffee to discuss the day's events.

BYOL (Bring your own lunch) at the Meeting Spot **C-Ballroom Foyer**
12:00 pm-1:00 pm
Convention veterans will be available to answer questions and meet with Convention #1 Attendees. lunch items will be available for purchase 11:00 am-2:00 pm daily.

Tuesday, October 26, 2010

Pre-Mixer Gathering **W-Original Fish Market**
6:00 pm
Meet for a pre-Mixer beverage with mentors and other Convention #1 Attendees. Beverages will be available for purchase.

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Friday, October 22, 2010

6:30 pm - 9:00 pm

TAC	Technical Activities M1	W-BUTLER

Saturday, October 23, 2010

7:00 am - 6:00 pm

TAC	Technical Activities M2	W-FAYETTE

1:00 pm - 4:00 pm

562-D	Eval, Repair & Rehab - Structural Repair Design	W-BUTLER WEST

1:00 pm - 5:00 pm

	ACI Concrete Sustainability Forum III	C-406

1:00 pm - 5:00 pm

EAC	Educational Activities M1	W-LAWRENCE
562-F	Evaluation Repair & Rehab - General	W-BUTLER EAST

2:00 pm - 6:00 pm

	Registration	C-BALLROOM FOYER

3:00 pm - 5:00 pm

376	RLG Containment Structures M1	W-PENNSYLVANIA EAST

6:00 pm - 9:00 pm

562-A	Eval, Repair & Rehab - Life Safety	W-WASHINGTON
562-C	Eval, Repair & Rehab - Structural Analysis	W-BUTLER EAST
562-E	Eval, Repair & Rehab - Durability Qlty Assurance	W-FAYETTE

7:00 pm - 9:00 pm

347-A	Formwork - Specification	W-BUTLER WEST

Sunday, October 24, 2010

7:00 am - 8:30 am

301-SC	Spec - Steering Committee	C-307

7:30 am - 5:00 pm

	Registration	C-BALLROOM FOYER

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Sunday, October 24, 2010 (cont.)

8:00 am - 8:30 am

408-A	Mech Splices and Headed Bars	C-306

8:00 am - 9:00 am

	Convention #1 Breakfast	W-ALLEGHENY 1
TACRG1	TAC Review Group 1	W-CAMBRIA EAST
TACRG2	TAC Review Group 2	W-CAMBRIA WEST
TACRG3	TAC Review Group 3	W-BUTLER EAST

8:00 am - 9:30 am

341-C	Equake Res Brdgs - Retrofit	C-403

8:00 am - 10:00 am

E706	Repair Application Procedures	W-LAWRENCE
S801	Student Activities	C-320
562-B	Eval, Repair & Rehab - Loads	C-310

8:00 am - 10:30 am

CLC	Construction Liaison	C-402

8:00 am - 11:00 am

445-B	Shear & Torsn - Seismic Shear	W-CRAWFORD WEST

8:00 am - 2:00 pm

TAC	Technical Activities M3	W-FAYETTE

8:30 am - 10:00 am

342	Bridge Evaluation	C-317

8:30 am - 10:30 am

546-B	Repair - Material Selection Guide	C-321

8:30 am - 11:30 am

MEMC	Membership	C-401
315-B	Detailing Constructability	C-315
350-C	Env Str - Reinf & Devel	C-307
408	Development and Splicing	C-306
440-H	FRP - Reinforced Concrete	W-ALLEGHENY 2

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Sunday, October 24, 2010 (cont.)

8:30 am - 12:00 pm

301 Specifications M1 C-319

8:30 am - 12:30 pm

347 Formwork C-318

9:00 am - 11:00 am

506-A Shotcreting - Evaluation C-311

9:00 am - 11:30 am

370 Dynamic & Vibratory Effects C-404

9:00 am - 12:00 pm

551 Tilt-Up W-BUTLER WEST

9:00 am - 5:00 pm

376 RLG Containment Structures M2 C-316

9:30 am - 10:30 am

549-A Thin Reinforced – Glass Fiber-Reinforced Concrete W-ALLEGHENY 3

9:30 am - 11:00 am

341-D Perf Based Seismic Design C-403

9:30 am - 2:00 pm

✓Pittsburgh City Tour DEPART WESTIN LOBBY

10:00 am - 11:30 am

E701 Materials for Concrete Construction W-LAWRENCE

10:00 am - 12:00 pm

IC-Part International Partnerships & Publications C-320

10:00 am - 12:30 pm

228 Nondestructive Testing C-317

10:00 am - 1:00 pm

421 Reinf Slabs C-405

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Sunday, October 24, 2010 (cont.)

10:00 am - 3:00 pm

301-F	Spec - Precast Concrete Panels	C-310

10:30 am - 12:30 pm

549	Thin Reinforced	W-ALLEGHENY 3

10:30 am - 1:30 pm

445-A	Shear & Torsn - Strut & Tie	W-WASHINGTON

11:00 am - 12:00 pm

343-A	Design	C-311

11:00 am - 12:30 pm

341-A	Equake Res Brdgs - Columns	C-403

11:00 am - 1:00 pm

506-G	Qualifications for Projects	C-402

11:30 am - 1:00 pm

HTC	Hot Topic	W-CRAWFORD WEST
221	Aggregates	C-306
335	Composite Hybrid	C-401
350-SC	Env Str - Steering Comm	W-LAWRENCE
374-TG	Protocol for Testing RC Structural Elements	C-307

12:00 pm - 2:00 pm

	✓International Lunch	W-WESTMORELAND

12:00 pm - 5:00 pm

	Student Egg Protection Device Competition	C-EAST ATRIUM

12:30 pm - 2:00 pm

130-F	Social Issues	W-BUTLER WEST
445-E	Shear & Torsn - SOA Torsion	C-321

12:30 pm - 2:30 pm

440-J	FRP-Stay in Place Forms	C-315

12:30 pm - 3:30 pm

301-H	Spec - Tilt-Up Constr & Arch Conc	C-311

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Sunday, October 24, 2010 (cont.)

1:00 pm - 3:00 pm

301-E	Spec - Prestressed Concrete	W-CAMBRIA EAST
445-C	Shear & Torsn - Punching Shear	W-CRAWFORD WEST

1:00 pm - 4:00 pm

BAC-SD	Board Advisory Committee on Sustainable Development	W-ALLEGHENY 3

1:00 pm - 5:00 pm

301-C	Spec - Placing Consolidating & Curing	W-LAWRENCE
301-D	Spec - Lightweight & Massive Concrete	C-307
301-G	Spec - Shrink Comp Conc & Ind Floor Slabs	W-CAMBRIA WEST
336	Footings	C-320
350-E	Env Str - Precast/Prestressed	W-BUTLER EAST
562	Eval, Repair & Rehab	W-ALLEGHENY 2

1:30 pm - 3:00 pm

341-B	Equake Res Brdgs - Pier Walls	C-403
423-E	Prestress Losses	W-WASHINGTON

1:30 pm - 3:30 pm

345	Bridge Construction	C-306

1:30 pm - 5:00 pm

355	Anchorage	C-317

2:00 pm - 3:00 pm

506-B	Shotcreting - Fiber Reinforced	W-EXECUTIVE BOARDROOM
546-C	Repair - Guide	W-BUTLER WEST

2:00 pm - 3:30 pm

C650	Tilt-Up Constructor Cert	C-402
236-B	Material Science - Transport Mechanisms	W-CRAWFORD EAST

2:00 pm - 4:00 pm

215	Fatigue	C-405
305	Hot Weather	C-319

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Sunday, October 24, 2010 (cont.)

2:00 pm - 5:00 pm *Sessions*

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 1 — C-302

Design of Sustainable Concrete Bridges — C-304

Emerging Technologies in Civil Infrastructure Applications — C-301

Errors in the Design and Construction of Concrete Structures—Examples, Consequences, and Mitigation — C-305

High-Performance Concrete for Sustainable Columns — C-303

2:00 pm - 5:00 pm

RCC	Responsibility	W-FAYETTE
309	Consolidation	C-321
315	Detailing	C-318
352	Joints	C-404

2:30 pm - 4:30 pm

440-L	FRP - Durability	W-ALLEGHENY 1

2:30 pm - 5:00 pm

224	Cracking	C-401

3:00 pm - 4:30 pm

441-E	Columns Multi-Spiral Reinf	W-CAMBRIA EAST

3:00 pm - 5:00 pm

E601	Seminar Oversight Committee	C-310
121	Quality Assurance	W-EXECUTIVE BOARDROOM
314	Simplified Design Buildings	C-403
341	Earthquake Resistant Bridges	C-315
423/445	Adhoc Grp on Shear in Prestress Conc	W-CRAWFORD WEST
550	Precast Structures	W-WASHINGTON

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Sunday, October 24, 2010 (cont.)

3:30 pm - 5:00 pm

Intl-Cert	International Certification	W-CRAWFORD EAST
201-A	Durability - Sulfate Attack	C-306
236-D	Material Science Nanotechnology of Concrete M1	C-311
439-A	Steel Reinforcement - Wire	C-402

4:00 pm - 5:00 pm

S805	Collegiate Concrete Council	C-405
123	Research	C-319
440-M	FRP - Repair of Masonry Str	W-ALLEGHENY 3

5:15 pm - 6:30 pm

Opening Session and Hardy Cross Commemorative Lecture Series C-PITTSBURGH BALLROOM B & C

6:30 pm - 7:30 pm

Opening Reception C-BALLROOM FOYER

7:30 pm - 10:00 pm

Hot Topic Session: Full-Scale Testing of ACI 318 in Chile C-304

123 Forum C-305

9:00 pm - 10:30 pm

Student and Young Professional Networking Event SHARP EDGE BISTRO

Monday, October 25, 2010

6:30 am - 8:15 am

Workshop for Technical Committee Chairs C-PITTSBURGH BALLROOM B & C

7:00 am - 8:30 am

Speaker Skills Training Breakfast: Teaching Methods and Educational Materials W-ALLEGHENY 2

7:15 am - 8:30 am

IC-Conf	International Conferences	W-WASHINGTON

8:00 am - 11:00 am

237	Self-Consolidating Concrete	W-PENNSYLVANIA BALLROOM

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Monday, October 25, 2010 (cont.)

8:00 am - 3:15 pm

	✓Fallingwater/Fort Necessity	DEPART WESTIN LOBBY

8:00 am - 5:00 pm

	Registration	C-BALLROOM FOYER

8:15 am - 9:00 am

343-B	Bridge Deck Design	W-FAYETTE

8:15 am - 10:00 am

351-B	Grtng Fndns - Equip Machnry	C-316

8:30 am - 10:00 am

S802	Teaching Methods and Educational Materials	W-BUTLER EAST
118	Computers	W-SOMERSET EAST
122	Thermal Properties	C-405
130-A	Materials	C-402
439	Steel Reinforcement	C-319
440-G	FRP - Student	C-404
524	Plastering	W-CRAWFORD EAST
544-B	FRC - Education	C-401

8:30 am - 10:30 am

PUBC	Publications	W-CRAWFORD WEST
506-E	Shotcreting - Specifications	W-EXECUTIVE BOARDROOM
546	Repair	C-321
548-A	Polymers - Overlays	W-SOMERSET WEST

8:30 am - 11:00 am

355-TG	Anchorage TG	C-318

8:30 am - 11:30 am

C610	Field Technician Cert	C-317
209	Creep & Shrinkage	C-315
543	Piles	C-310

8:30 am - 12:00 pm

301-A	Spec - Gen Req, Definitions & Tolerances	W-CAMBRIA EAST
301-B	Spec - Formwork & Reinforcement	W-BUTLER WEST
362-A	Parking Str - Standard	W-CAMBRIA WEST

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Monday, October 25, 2010 (cont.)

8:30 am - 12:30 pm

374	Seismic Design	C-403
423	Prestressed	C-320

8:30 am - 1:00 pm

302	Floor Construction	W-ALLEGHENY 2
350-B	Env Str - Durability	C-311

8:30 am - 6:30 pm

350-D	Env Str - Structural	C-307

9:00 am - 12:00 pm *Sessions*

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 2	C-302
Hybrid Systems for Sustainable Construction, Part 1	C-303
Practical Applications of Numerical Analysis and Design	C-305
Research in Progress	C-301
Sustainability of Concrete Pavement	C-304

9:00 am - 3:00 pm

Exhibitor Demonstrations	C-EAST ATRIUM

9:00 am - 5:00 pm

376-TG	RLG Containment Structures TG M1	W-FAYETTE

10:00 am - 11:00 am

130-B	Production/Transport/Construction	C-316

10:00 am - 11:30 am

311	Inspection	C-405

10:00 am - 12:00 pm

445-D	Shear & Torsn - Database	W-BUTLER EAST

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Monday, October 25, 2010 (cont.)

10:00 am - 1:00 pm

207	Mass Concrete	W-CRAWFORD EAST
216	Fire Resistance	W-SOMERSET EAST
232-A	Fly Ash - Use of Nat Pozzolans	C-404
318-E	Shear & Torsion M1	C-319
343	Bridge Design	C-401
349-AB	Nuclear Structures - Design & Materials	C-402

10:30 am - 12:00 pm

124	Aesthetics	W-CRAWFORD WEST

10:30 am - 12:30 pm

437	Strength Evaluation	C-321
506-C	Shotcreting - Guide	W-EXECUTIVE BOARDROOM
548-C	Structural Polymer Design	W-SOMERSET WEST

11:00 am - 1:00 pm

130-E	Design/Specifications/Codes/Regulations	C-318
351	Equip Foundations	C-316

11:30 am - 1:00 pm

C601-A	Adhesive Anchor Installer	W-WASHINGTON
201-D	Durability - Oversight Committee	C-315
304	Measuring/Mix/Trans/ Placing	W-PENNSYLVANIA BALLROOM
346	CIP Pipe	C-310
544-A	FRC - Production & Applications	W-WESTMORELAND

11:30 am - 2:00 pm

441	Columns	C-317
447	Finite Element Analysis	C-405

12:00 pm - 2:00 pm

	✓Student Lunch	C-PITTSBURGH BALLROOM B & C

12:00 pm - 2:30 pm

440-F	FRP - Repair Strengthening	W-ALLEGHENY 3

12:00 pm - 3:00 pm

318-D	Flexure & Axial Loads M1	W-CRAWFORD WEST

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Monday, October 25, 2010 (cont.)

1:00 pm - 2:00 pm

214	Strength Tests M1	W-CAMBRIA EAST

1:00 pm - 2:30 pm

C631	Conc Transportation Const Insp	C-404
ISO/TC 71	ISO/TC 71 Advisory Cmte	C-318
350-H	Env Str - Editorial	W-SOMERSET WEST

1:00 pm - 3:00 pm

C660	Shotcrete Nozzleman Cert	C-311
364	Rehabilitation	W-PENNSYLVANIA BALLROOM

1:00 pm - 3:30 pm

228-TG	Nondestructive Testing TG	C-310
375	Design for Wind Loads	W-WASHINGTON

1:00 pm - 4:00 pm

225	Hydraulic Cements	W-CRAWFORD EAST
232	Fly Ash & Natural Pozzolans	C-321

1:00 pm - 5:00 pm

301	Specifications M2	C-320
362	Parking Structures	C-401

1:30 pm - 3:30 pm

548-B	Adhesives in Concrete	W-CAMBRIA WEST

2:00 pm - 3:30 pm

231	Early Age	W-SOMERSET EAST
318-G	Prestressed Precast M1	C-317
318-S	Spanish Translation	W-CAMBRIA EAST
544-E	FRC - Mechanical Properties	W-BUTLER EAST

2:00 pm - 4:00 pm

	Free Tour of RJ Lee Group	DEPART WESTIN LOBBY
365	Service Life	C-405

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Monday, October 25, 2010 (cont.)

2:00 pm - 5:00 pm *Sessions*

Analysis, Design, and Construction Practices in Environmental Engineering Concrete Structures: An Overview of the ACI 350 Code and Commentary C-304

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 3 C-302

Diagnosis and Repair of Structures Suffering from Durability Problems C-305

High-Performance Concrete for Seismic Design of Bridges C-301

Hybrid Systems for Sustainable Construction, Part 2 C-303

2:00 pm - 5:00 pm

MKTC	Marketing	W-BUTLER WEST
130	Sustainability M1	W-ALLEGHENY 2
212	Chemical Admixtures	C-315
318-B	Reinforcement & Development M1	C-402
349-C	Nuclear Structures - Anchorage	C-403

2:00 pm - 6:00 pm

445	Shear & Torsion	C-319

2:00 pm - 6:30 pm

360	Slabs on Ground	W-WESTMORELAND

2:30 pm - 4:00 pm

533	Precast Panels	C-316

2:30 pm - 5:00 pm

CAC	Chapter Activities	C-404

3:00 pm - 4:00 pm

506-F	Shotcreting - Underground	W-CRAWFORD WEST

3:00 pm - 5:00 pm

369	Seismic Rehab	C-311

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Monday, October 25, 2010 (cont.)

3:30 pm - 4:30 pm

236-C	Computational Materials Science	C-317

3:30 pm - 5:00 pm

211-TG1	Guide for Selecting Proportions for Pumpable Concrete	W-BUTLER EAST
214	Strength Tests M2	W-SOMERSET EAST
318-L	International Liaison	C-310
446	Fracture Mechanics	W-SOMERSET WEST

3:30 pm - 6:00 pm

544-D	FRC - Structural Uses	C-318

3:30 pm - 6:30 pm

350-J	Env Str - Education	W-WASHINGTON
435	Deflection	W-CAMBRIA EAST

4:00 pm - 6:00 pm

201-E	Salt Weathering/Salt Attack	W-CAMBRIA WEST
318-C	Serviceability/Safety M1	C-316

4:30 pm - 5:30 pm

236	Material Science	C-317

5:00 pm - 6:00 pm

	Women in ACI Reception	W-CRAWFORD
334	Shells	W-BUTLER WEST

5:00 pm - 6:30 pm

E702	Designing Concrete Structures	C-401
318-TGF	TGF - Foundation	C-310
555	Recycled	C-320

5:00 pm - 7:00 pm

E703	Concrete Construction Practices	W-BUTLER EAST

6:00 pm - 9:30 pm

✓Dinner/Dance Cruise DEPART SIXTH STREET DOCK

(see p. 136 for details)

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Tuesday, October 26, 2010

7:00 am - 8:30 am

TRRC	TAC Repair & Rehab	W-CAMBRIA EAST
TTAG	Technology Transfer Advisory Group	C-401

7:00 am - 9:00 am

563-C	Excavation/Surface Preparation	C-311
563-FG	Mixtures/Placing/Curing	W-LAWRENCE
563-I	Proprietary Grouts/Concrete	W-BUTLER WEST
563-L	Prestressed Concrete	W-WASHINGTON
563-MN	Polymer Overlays/Protection Systems	C-320

7:30 am - 9:00 am

130-G	Education/Certification	C-402

8:00 am - 9:00 am

IJBRC	Intl Joints & Bearings Research	C-307

8:00 am - 10:00 am

211-C	Proportioning - No Slump	W-BUTLER EAST
230	Soil Cement	W-CRAWFORD EAST
444	Experimental Analysis	C-321

8:00 am - 10:30 am

325-A	Pavements - Design	C-310

8:00 am - 12:00 pm

EAC	Educational Activities M2	W-CRAWFORD WEST

8:00 am - 12:30 pm

318-B	Reinforcement & Development M2	C-315
318-D	Flexure & Axial Loads M2	W-SOMERSET EAST
318-E	Shear & Torsion M2	C-405
318-G	Prestressed Precast M2	W-FAYETTE

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Tuesday, October 26, 2010 (cont.)

8:00 am - 5:00 pm

	Registration	C-BALLROOM FOYER

8:30 am - 10:00 am

C620	Laboratory Tech Cert	C-319
238	Workability of Fresh Concrete	W-CAMBRIA EAST
523-A	Cellular - Autoclaved Aerated	C-401

8:30 am - 10:30 am

357	Offshore & Marine	W-SOMERSET WEST
522	Pervious Concrete	W-PENNSYLVANIA WEST

8:30 am - 11:00 am

201	Durability	W-ALLEGHENY 2

8:30 am - 11:30 am

117	Tolerances	C-316
306	Cold Weather	C-306
350-G&K	Env Str - Tightness Testing/ Haz Mat	W-EXECUTIVE BOARDROOM
440	Fiber Reinforced Polymer	W-ALLEGHENY 1
506	Shotcreting	C-318
548	Polymers	C-403

8:30 am - 12:30 pm

349	Nuclear Structures M1	C-317

8:30 am - 3:30 pm

350-F	Env Str - Seismic	W-CAMBRIA WEST

9:00 am - 11:00 am

563-H	Architectural/Precast Concrete	W-WASHINGTON
563-JK	Crack Repair/External Reinforcement	W-BUTLER WEST
563-P	Corrosion	C-311

9:00 am - 11:30 am

IC	International Committee	C-402

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Tuesday, October 26, 2010 (cont.)

9:00 am - 12:00 pm *Sessions*

	Contractors' Day Session and Tour: David L. Lawrence Convention Center, the First Green Convention Facility	C-301
	Mineral Fillers: Role in Self-Consolidating Concrete	C-305
	Sustainable Design with Concrete, Part 1	C-303
	Seismic Performance of Concrete Joints and Connections	C-304
	Technical Session in Honor of Dov Kaminetzky, Part 1	C-302

9:00 am - 12:00 pm

332-D	Residential Concrete - Footings & Foundation Walls	C-320

9:00 am - 3:00 pm

	Exhibitor Demonstrations	C-EAST ATRIUM

9:00 am - 5:00 pm

376-TG	RLG Containment Structures TG M2	C-307

9:30 am - 2:30 pm

	✓Clayton Mansion	DEPART WESTIN LOBBY

10:00 am - 11:00 am

130-C	Structures in Service	C-319

10:00 am - 11:30 am

C630	Construction Inspector Cert	C-321

10:00 am - 12:00 pm

211-A	Proportioning - Editorial	W-CRAWFORD EAST
327	RCC Pavements	W-CAMBRIA EAST

10:00 am - 12:30 pm

371	Elevated Tanks with Concrete Pedestals	W-BUTLER EAST

10:00 am - 1:00 pm

523	Cellular Concrete	C-401

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Tuesday, October 26, 2010 (cont.)

10:30 am - 12:00 pm

325-C	Pavements - Prestressed and Precast	C-310
332-B	Conc Mtrls and Plcmnt	C-404
544-F	FRC - Durability	W-PENNSYLVANIA WEST

10:30 am - 12:30 pm

515	Protective Systems	W-LAWRENCE

11:00 am - 1:00 pm

CRC	Concrete Research Council	W-BUTLER WEST
130	Sustainability M2	W-ALLEGHENY 2
348	Safety	W-WASHINGTON

11:30 am - 12:30 pm

236-TG2	Sustainability Engineered by Material Science	C-403

11:30 am - 1:00 pm

E707	Specification Education	C-311
211-E	Proportioning - Evaluation	C-321
213-TG	Lightweight - Editorial TG	C-306
223-D	Shr Compensating - Non Reinforced Concrete or Mortar	W-EXECUTIVE BOARDROOM

11:30 am - 2:00 pm

552	Cementitious Grouting	C-316

11:30 am - 5:00 pm

350-A	Env Str - General & Concrete	W-SOMERSET WEST

12:00 pm - 2:00 pm

	✓Contractors' Day Lunch	W-WESTMORELAND

12:30 pm - 2:00 pm

C640	Craftsman Cert	W-SOMERSET EAST

1:00 pm - 2:00 pm

223-C	Shr Compensating - Constr	W-CRAWFORD EAST
325-D	Proportioning for Pavements	W-BUTLER WEST

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Tuesday, October 26, 2010 (cont.)

1:00 pm - 3:00 pm

201-C	Durability - Condition Report	W-BUTLER EAST
211-I	Assessing Aggregate Gradation	W-EXECUTIVE BOARDROOM
236-D	Material Science Nanotechnology of Concrete M2	C-321
332-F	Residential Concrete - Slabs	W-FAYETTE

1:00 pm - 5:00 pm

563	Specs for Repair of Struct Conc in Bldgs	C-401

1:30 pm - 3:00 pm

120	History	C-310

1:30 pm - 3:30 pm

213	Lightweight	C-404

1:30 pm - 6:00 pm

318-A	General Concrete Constr	W-WASHINGTON
318-C	Serviceability/Safety M2	C-405
318-H	Seismic Provisions	W-ALLEGHENY 2
318-R	Code Reorganization	W-CRAWFORD WEST

2:00 pm - 3:30 pm

234	Silica Fume	C-306
325-E	Accelerated Paving	W-BUTLER WEST
544-C	FRC - Testing	C-315

2:00 pm - 4:00 pm

130-D	Rating Systems/Sustainability Tools	C-316
211-F	Proportioning - Submittal	W-CRAWFORD EAST

2:00 pm - 5:00 pm *Sessions*

	Contractors' Day Session	C-301
	High-Strength and Corrosion-Resistant Reinforcing Steel for Concrete Structures	C-304
	Open Paper Session	C-305
	Sustainable Design with Concrete, Part 2	C-303
	Technical Session in Honor of Dov Kaminetzky, Part 2	C-302

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Tuesday, October 26, 2010 (cont.)

2:00 pm - 5:00 pm

CPC	Certification Programs	C-402
222	Corrosion	C-318
223	Shrinkage Compensating	C-311
229	Controlled Low Strength	W-PENNSYLVANIA WEST
235	Electronic Data Exchange	W-SOMERSET EAST
307	Chimneys	W-LAWRENCE
310	Decorative Concrete	W-CAMBRIA EAST
349	Nuclear Structures M2	C-317

2:00 pm - 6:00 pm

233	Slag Cement	C-320

3:00 pm - 4:00 pm

236-TG1	Advanced Analysis Techniques for Concrete	W-EXECUTIVE BOARDROOM

3:00 pm - 5:00 pm

CC	Convention Committee M2	C-319
131	BIM	C-321
211-N	Proportioning with Ground Limestone and Material Fillers	C-403
332	Residential Concrete	C-310
372	Prestressed/Wire Wrapped	W-BUTLER EAST

3:30 pm - 5:00 pm

363-A	High-Strength Lightweight Concrete	W-BUTLER WEST

3:30 pm - 5:30 pm

325	Pavements	C-315

3:30 pm - 6:00 pm

544	Fiber-Reinforced Concrete	W-ALLEGHENY 1

4:00 pm - 6:00 pm

350-L	Env Str- Specification	W-CAMBRIA WEST

4:30 pm - 6:00 pm

308/213	Guide on Internal Curing	C-316

5:00 pm - 6:00 pm

	Faculty Network Reception	C-404

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Tuesday, October 26, 2010 (cont.)

6:30 pm - 10:00 pm

Concrete Mixer at the Heinz History Center — HEINZ HISTORY CENTER

Wednesday, October 27, 2010

7:00 am - 8:30 am

ACI/ASCE — ACI/ASCE Coordination — W-BUTLER WEST

7:00 am - 9:00 am

SYPAC — Student & Young Professional Activities — C-307

7:00 am - 10:00 am

TCSC — TAC Construction Standards Committee — C-311

7:30 am - 9:30 am

359-A — Design — C-316

8:00 am - 10:30 am

308-B — Curing - Specifications — W-WASHINGTON

8:00 am - 12:00 pm

Registration — C-BALLROOM FOYER

8:00 am - 6:00 pm

318 — Building Code — C-319/320/321

8:30 am - 9:30 am

359-B — Materials, Fabrication & Examination — W-EXECUTIVE BOARDROOM

359-C — Modernization — W-BUTLER WEST

8:30 am - 10:30 am

303 — Architectural CIP — W-SOMERSET EAST

8:30 am - 11:30 am

211 — Proportioning — W-FAYETTE

330-TG — Parking Lots & Site Paving TG — C-306

363 — High-Strength — W-SOMERSET WEST

560 — Design & Constr ICFs — C-310

8:30 am - 6:30 pm

350 — Environmental Structures — C-317/318

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Wednesday, October 27, 2010 (cont.)

9:00 am - 11:00 am

Free Tour of RJ Lee Group — DEPART WESTIN LOBBY

9:00 am - 12:00 pm *Sessions*

Corrosion-Resistant Reinforcement—Current Performance and Alternative Materials — C-302

Green Binders Technology — C-304

Progress in Reinforced Concrete Chimney Design, Construction, and Retrofits — C-303

Textile Reinforced Concrete—Modern Developments, Part 3 — C-301

9:00 am - 12:00 pm

ACIFdn ACI Foundation — W-BUTLER EAST

9:00 am - 3:00 pm

✓Carnegie/Warhol Museums — DEPART WESTIN LOBBY

9:00 am - 5:00 pm

376-TG RLG Containment Structures TG M3 — C-307

9:30 am - 5:00 pm

359 Nuclear Reactors — C-316

10:00 am - 12:30 pm

C601-B Concrete Quality Technical Mgr — W-BUTLER WEST

10:30 am - 12:30 pm

329 Perf Ready Mixed — C-315

10:30 am - 1:00 pm

308-A Curing - Guide — C-311

11:30 am - 1:00 pm

C601-D Decorative Concrete Finisher — C-310

1:00 pm - 4:00 pm

330 Parking Lots & Site Paving — C-306

Daily Program

All schedule and location changes will be posted daily in the C-BALLROOM FOYER.

✓ = Separate fee required TG = Task Group = AIA/USGBC approved session

W = Westin C = Convention Center

Wednesday, October 27, 2010 (cont.)

2:00 pm - 5:00 pm *Sessions*

Textile Reinforced Concrete—Modern Developments, Part 4 C-301

Blast Mitigation Retrofits—Research and Application C-302

Energy Conservation for Greener Buildings C-303

2:00 pm - 5:00 pm

308 Curing C-315

Thursday, October 28, 2010

8:00 am - 5:00 pm

✓Anchorage to Concrete Seminar W-FAYETTE

10:00 am - 5:00 pm

BOD Board of Direction W-PENNSYLVANIA BALLROOM

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

Code	Committee	Day	Time	Room Name
ACI/ASCE	ACI/ASCE Coordination	Wed	7:00 am-8:30 am	W-BUTLER WEST
ACIFdn	ACI Foundation	Wed	9:00 am-12:00 pm	W-BUTLER EAST
BAC-SD	Board Advisory Committee on Sustainable Development	Sun	1:00 pm-4:00 pm	W-ALLEGHENY 3
BOD	Board of Direction	Thu	10:00 am-5:00 pm	W-PENNSYLVANIA BALLROOM
C601-A	Adhesive Anchor Installer	Mon	11:30 am-1:00 pm	W-WASHINGTON
C601-B	Concrete Quality Technical Mgr	Wed	10:00 am-12:30 pm	W-BUTLER WEST
C601-D	Decorative Concrete Finisher	Wed	11:30 am-1:00 pm	C-310
C610	Field Technician Cert	Mon	8:30 am-11:30 am	C-317
C620	Laboratory Tech Cert	Tue	8:30 am-10:00 am	C-319
C630	Construction Inspector Cert	Tue	10:00 am-11:30 am	C-321
C631	Conc Transportation Const Insp	Mon	1:00 pm-2:30 pm	C-404
C640	Craftsman Cert	Tue	12:30 pm-2:00 pm	W-SOMERSET EAST
C650	Tilt-Up Constructor Cert	Sun	2:00 pm-3:30 pm	C-402
C660	Shotcrete Nozzleman Cert	Mon	1:00 pm-3:00 pm	C-311
CAC	Chapter Activities	Mon	2:30 pm-5:00 pm	C-404
CC	Convention Committee M2	Tue	3:00 pm-5:00 pm	C-319
CLC	Construction Liaison	Sun	8:00 am-10:30 am	C-402
CPC	Certification Programs	Tue	2:00 pm-5:00 pm	C-402
CRC	Concrete Research Council	Tue	11:00 am-1:00 pm	W-BUTLER WEST
E601	Seminar Oversight Committee	Sun	3:00 pm-5:00 pm	C-310
E701	Materials for Concrete Construction	Sun	10:00 am-11:30 am	W-LAWRENCE
E702	Designing Concrete Structures	Mon	5:00 pm-6:30 pm	C-401
E703	Concrete Construction Practices	Mon	5:00 pm-7:00 pm	W-BUTLER EAST
E706	Repair Application Procedures	Sun	8:00 am-10:00 am	W-LAWRENCE
E707	Specification Education	Tue	11:30 am-1:00 pm	C-311

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

Code	Committee	Day	Time	Room Name
EAC	Educational Activities M1	Sat	1:00 pm-5:00 pm	W-LAWRENCE
EAC	Educational Activities M2	Tue	8:00 am-12:00 pm	W-CRAWFORD WEST
HTC	Hot Topic	Sun	11:30 am-1:00 pm	W-CRAWFORD WEST
IC	International Committee	Tue	9:00 am-11:30 am	C-402
IC-Conf	International Conferences	Mon	7:15 am-8:30 am	W-WASHINGTON
IC-Part	International Partnerships & Publications	Sun	10:00 am-12:00 pm	C-320
IJBRC	Intl Joints & Bearings Research	Tue	8:00 am-9:00 am	C-307
Intl-Cert	International Certification	Sun	3:30 pm-5:00 pm	W-CRAWFORD EAST
ISO/TC 71	ISO/TC 71 Advisory Cmte	Mon	1:00 pm-2:30 pm	C-318
MEMC	Membership	Sun	8:30 am-11:30 am	C-401
MKTC	Marketing	Mon	2:00 pm-5:00 pm	W-BUTLER WEST
PUBC	Publications	Mon	8:30 am-10:30 am	W-CRAWFORD WEST
RCC	Responsibility	Sun	2:00 pm-5:00 pm	W-FAYETTE
SYPAC	Student and Young Professional Activities	Wed	7:00 am-9:00 am	C-307
S801	Student Activities	Sun	8:00 am-10:00 am	C-320
S802	Teaching Methods and Educational Materials	Mon	8:30 am-10:00 am	W-BUTLER EAST
S805	Collegiate Concrete Council	Sun	4:00 pm-5:00 pm	C-405
TAC	Technical Activities M1	Fri	6:30 pm-9:00 pm	W-BUTLER
TAC	Technical Activities M2	Sat	7:00 am-6:00 pm	W-FAYETTE
TAC	Technical Activities M3	Sun	8:00 am-2:00 pm	W-FAYETTE
TACRG1	TAC Review Group 1	Sun	8:00 am-9:00 am	W-CAMBRIA EAST
TACRG2	TAC Review Group 2	Sun	8:00 am-9:00 am	W-CAMBRIA WEST
TACRG3	TAC Review Group 3	Sun	8:00 am-9:00 am	W-BUTLER EAST
TCSC	TAC Construction Standards Committee	Wed	7:00 am-10:00 am	C-311
TRRC	TAC Repair & Rehab	Tue	7:00 am-8:30 am	W-CAMBRIA EAST
TTAG	Technology Transfer Advisory Group	Tue	7:00 am-8:30 am	C-401

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

Code	Committee	Day	Time	Room Name
117	Tolerances	Tue	8:30 am-11:30 am	C-316
118	Computers	Mon	8:30 am-10:00 am	W-SOMERSET EAST
120	History	Tue	1:30 pm-3:00 pm	C-310
121	Quality Assurance	Sun	3:00 pm-5:00 pm	W-EXECUTIVE BOARDROOM
122	Thermal Properties	Mon	8:30 am-10:00 am	C-405
123	Research	Sun	4:00 pm-5:00 pm	C-319
124	Aesthetics	Mon	10:30 am-12:00 pm	W-CRAWFORD WEST
130	Sustainability M1	Mon	2:00 pm-5:00 pm	W-ALLEGHENY 2
130	Sustainability M2	Tue	11:00 am-1:00 pm	W-ALLEGHENY 2
130-A	Materials	Mon	8:30 am-10:00 am	C-402
130-B	Production/Transport/ Construction	Mon	10:00 am-11:00 am	C-316
130-C	Structures in Service	Tue	10:00 am-11:00 am	C-319
130-D	Rating Systems/ Sustainability Tools	Tue	2:00 pm-4:00 pm	C-316
130-E	Design/Specifications/ Codes/Regulations	Mon	11:00 am-1:00 pm	C-318
130-F	Social Issues	Sun	12:30 pm-2:00 pm	W-BUTLER WEST
130-G	Education/Certification	Tue	7:30 am-9:00 am	C-402
131	BIM	Tue	3:00 pm-5:00 pm	C-321
201	Durability	Tue	8:30 am-11:00 am	W-ALLEGHENY 2
201-A	Durability - Sulfate Attack	Sun	3:30 pm-5:00 pm	C-306
201-C	Durability - Condition Report	Tue	1:00 pm-3:00 pm	W-BUTLER EAST
201-D	Durability - Oversight Committee	Mon	11:30 am-1:00 pm	C-315
201-E	Salt Weathering/ Salt Attack	Mon	4:00 pm-6:00 pm	W-CAMBRIA WEST
207	Mass Concrete	Mon	10:00 am-1:00 pm	W-CRAWFORD EAST
209	Creep & Shrinkage	Mon	8:30 am-11:30 am	C-315
211	Proportioning	Wed	8:30 am-11:30 am	W-FAYETTE
211-A	Proportioning - Editorial	Tue	10:00 am-12:00 pm	W-CRAWFORD EAST

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

Code	Committee	Day	Time	Room Name
211-C	Proportioning - No Slump	Tue	8:00 am-10:00 am	W-BUTLER EAST
211-E	Proportioning - Evaluation	Tue	11:30 am-1:00 pm	C-321
211-F	Proportioning - Submittal	Tue	2:00 pm-4:00 pm	W-CRAWFORD EAST
211-I	Assessing Aggregate Gradation	Tue	1:00 pm-3:00 pm	W-EXECUTIVE BOARDROOM
211-N	Proportioning with Ground Limestone and Material Fillers	Tue	3:00 pm-5:00 pm	C-403
211-TG1	Guide for Selecting Proportions for Pumpable Concrete	Mon	3:30 pm-5:00 pm	W-BUTLER EAST
212	Chemical Admixtures	Mon	2:00 pm-5:00 pm	C-315
213	Lightweight	Tue	1:30 pm-3:30 pm	C-404
213-TG	Lightweight - Editorial TG	Tue	11:30 am-1:00 pm	C-306
214	Strength Tests M1	Mon	1:00 pm-2:00 pm	W-CAMBRIA EAST
214	Strength Tests M2	Mon	3:30 pm-5:00 pm	W-SOMERSET EAST
215	Fatigue	Sun	2:00 pm-4:00 pm	C-405
216	Fire Resistance	Mon	10:00 am-1:00 pm	W-SOMERSET EAST
221	Aggregates	Sun	11:30 am-1:00 pm	C-306
222	Corrosion	Tue	2:00 pm-5:00 pm	C-318
223	Shrinkage Compensating	Tue	2:00 pm-5:00 pm	C-311
223-C	Shr Compensating - Constr	Tue	1:00 pm-2:00 pm	W-CRAWFORD EAST
223-D	Shr Compensating - Non Reinforced Concrete or Mortar	Tue	11:30 am-1:00 pm	W-EXECUTIVE BOARDROOM
224	Cracking	Sun	2:30 pm-5:00 pm	C-401
225	Hydraulic Cements	Mon	1:00 pm-4:00 pm	W-CRAWFORD EAST
228	Nondestructive Testing	Sun	10:00 am-12:30 pm	C-317
228-TG	Nondestructive Testing TG	Mon	1:00 pm-3:30 pm	C-310
229	Controlled Low Strength	Tue	2:00 pm-5:00 pm	W-PENNSYLVANIA WEST
230	Soil Cement	Tue	8:00 am-10:00 am	W-CRAWFORD EAST

Numerical Committee Meeting Listing

W = Westin C = Convention Center

Code	Committee	Day	Time	Room Name
231	Early Age	Mon	2:00 pm-3:30 pm	W-SOMERSET EAST
232	Fly Ash & Natural Pozzolans	Mon	1:00 pm-4:00 pm	C-321
232-A	Fly Ash - Use of Nat Pozzolans	Mon	10:00 am-1:00 pm	C-404
233	Slag Cement	Tue	2:00 pm-6:00 pm	C-320
234	Silica Fume	Tue	2:00 pm-3:30 pm	C-306
235	Electronic Data Exchange	Tue	2:00 pm-5:00 pm	W-SOMERSET EAST
236	Material Science	Mon	4:30 pm-5:30 pm	C-317
236-B	Material Science - Transport Mechanisms	Sun	2:00 pm-3:30 pm	W-CRAWFORD EAST
236-C	Computational Materials Science	Mon	3:30 pm-4:30 pm	C-317
236-D	Material Science Nanotechnology of Concrete M1	Sun	3:30 pm-5:00 pm	C-311
236-D	Material Science Nanotechnology of Concrete M2	Tue	1:00 pm-3:00 pm	C-321
236-TG1	Advanced Analysis Techniques for Concrete	Tue	3:00 pm-4:00 pm	W-EXECUTIVE BOARDROOM
236-TG2	Sustainability Engineered by Material Science	Tue	11:30 am-12:30 pm	C-403
237	Self-Consolidating Concrete	Mon	8:00 am-11:00 am	W-PENNSYLVANIA BALLROOM
238	Workability of Fresh Concrete	Tue	8:30 am-10:00 am	W-CAMBRIA EAST
301	Specifications M1	Sun	8:30 am-12:00 pm	C-319
301	Specifications M2	Mon	1:00 pm-5:00 pm	C-320
301-A	Spec - Gen Req, Definitions, & Tolerances	Mon	8:30 am-12:00 pm	W-CAMBRIA EAST
301-B	Spec - Formwork & Reinforcement	Mon	8:30 am-12:00 pm	W-BUTLER WEST
301-C	Spec - Placing Consolidating & Curing	Sun	1:00 pm-5:00 pm	W-LAWRENCE
301-D	Spec - Lightweight & Massive Concrete	Sun	1:00 pm-5:00 pm	C-307
301-E	Spec - Prestressed Concrete	Sun	1:00 pm-3:00 pm	W-CAMBRIA EAST
301-F	Spec - Precast Concrete Panels	Sun	10:00 am-3:00 pm	C-310
301-G	Spec - Shrink Comp Conc & Ind Floor Slabs	Sun	1:00 pm-5:00 pm	W-CAMBRIA WEST

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

Code	Committee	Day	Time	Room Name
301-H	Spec - Tilt-Up Constr & Arch Conc	Sun	12:30 pm-3:30 pm	C-311
301-SC	Spec - Steering Committee	Sun	7:00 am-8:30 am	C-307
302	Floor Construction	Mon	8:30 am-1:00 pm	W-ALLEGHENY 2
303	Architectural CIP	Wed	8:30 am-10:30 am	W-SOMERSET EAST
304	Measuring/Mix/Trans/Placing	Mon	11:30 am-1:00 pm	W-PENNSYLVANIA BALLROOM
305	Hot Weather	Sun	2:00 pm-4:00 pm	C-319
306	Cold Weather	Tue	8:30 am-11:30 am	C-306
307	Chimneys	Tue	2:00 pm-5:00 pm	W-LAWRENCE
308	Curing	Wed	2:00 pm-5:00 pm	C-315
308/213	Guide on Internal Curing	Tue	4:30 pm-6:00 pm	C-316
308-A	Curing - Guide	Wed	10:30 am-1:00 pm	C-311
308-B	Curing - Specifications	Wed	8:00 am-10:30 am	W-WASHINGTON
309	Consolidation	Sun	2:00 pm-5:00 pm	C-321
310	Decorative Concrete	Tue	2:00 pm-5:00 pm	W-CAMBRIA EAST
311	Inspection	Mon	10:00 am-11:30 am	C-405
314	Simplified Design Buildings	Sun	3:00 pm-5:00 pm	C-403
315	Detailing	Sun	2:00 pm-5:00 pm	C-318
315-B	Detailing Constructability	Sun	8:30 am-11:30 am	C-315
318	Building Code	Wed	8:00 am-6:00 pm	C-319/320/321
318-A	General Concrete Constr	Tue	1:30 pm-6:00 pm	W-WASHINGTON
318-B	Reinforcement & Development M1	Mon	2:00 pm-5:00 pm	C-402
318-B	Reinforcement & Development M2	Tue	8:00 am-12:30 pm	C-315
318-C	Serviceability/Safety M1	Mon	4:00 pm-6:00 pm	C-316
318-C	Serviceability/Safety M2	Tue	1:30 pm-6:00 pm	C-405
318-D	Flexure & Axial Loads M1	Mon	12:00 pm-3:00 pm	W-CRAWFORD WEST

Numerical Committee Meeting Listing

W = Westin C = Convention Center

Code	Committee	Day	Time	Room Name
318-D	Flexure & Axial Loads M2	Tue	8:00 am-12:30 pm	W-SOMERSET EAST
318-E	Shear & Torsion M1	Mon	10:00 am-1:00 pm	C-319
318-E	Shear & Torsion M2	Tue	8:00 am-12:30 pm	C-405
318-G	Prestressed Precast M1	Mon	2:00 pm-3:30 pm	C-317
318-G	Prestressed Precast M2	Tue	8:00 am-12:30 pm	W-FAYETTE
318-H	Seismic Provisions	Tue	1:30 pm-6:00 pm	W-ALLEGHENY 2
318-L	International Liaison	Mon	3:30 pm-5:00 pm	C-310
318-R	Code Reorganization	Tue	1:30 pm-6:00 pm	W-CRAWFORD WEST
318-S	Spanish Translation	Mon	2:00 pm-3:30 pm	W-CAMBRIA EAST
318-TGF	TGF - Foundation	Mon	5:00 pm-6:30 pm	C-310
325	Pavements	Tue	3:30 pm-5:30 pm	C-315
325-A	Pavements - Design	Tue	8:00 am-10:30 am	C-310
325-C	Pavements - Prestressed and Precast	Tue	10:30 am-12:00 pm	C-310
325-D	Proportioning for Pavements	Tue	1:00 pm-2:00 pm	W-BUTLER WEST
325-E	Accelerated Paving	Tue	2:00 pm-3:30 pm	W-BUTLER WEST
327	RCC Pavements	Tue	10:00 am-12:00 pm	W-CAMBRIA EAST
329	Perf Ready Mixed	Wed	10:30 am-12:30 pm	C-315
330	Parking Lots & Site Paving	Wed	1:00 pm-4:00 pm	C-306
330-TG	Parking Lots & Site Paving TG	Wed	8:30 am-11:30 am	C-306
332	Residential Concrete	Tue	3:00 pm-5:00 pm	C-310
332-B	Conc Mtrls and Plcmnt	Tue	10:30 am-12:00 pm	C-404
332-D	Residential Concrete - Footings & Foundation Walls	Tue	9:00 am-12:00 pm	C-320
332-F	Residential Concrete - Slabs	Tue	1:00 pm-3:00 pm	W-FAYETTE
334	Shells	Mon	5:00 pm-6:00 pm	W-BUTLER WEST
335	Composite Hybrid	Sun	11:30 am-1:00 pm	C-401

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

Code	Committee	Day	Time	Room Name
336	Footings	Sun	1:00 pm-5:00 pm	C-320
341	Earthquake Resistant Bridges	Sun	3:00 pm-5:00 pm	C-315
341-A	Equake Res Brdgs - Columns	Sun	11:00 am-12:30 pm	C-403
341-B	Equake Res Brdgs - Pier Walls	Sun	1:30 pm-3:00 pm	C-403
341-C	Equake Res Brdgs - Retrofit	Sun	8:00 am-9:30 am	C-403
341-D	Perf Based Seismic Design	Sun	9:30 am-11:00 am	C-403
342	Bridge Evaluation	Sun	8:30 am-10:00 am	C-317
343	Bridge Design	Mon	10:00 am-1:00 pm	C-401
343-A	Design	Sun	11:00 am-12:00 pm	C-311
343-B	Bridge Deck Design	Mon	8:15 am-9:00 am	W-FAYETTE
345	Bridge Construction	Sun	1:30 pm-3:30 pm	C-306
346	CIP Pipe	Mon	11:30 am-1:00 pm	C-310
347	Formwork	Sun	8:30 am-12:30 pm	C-318
347-A	Formwork - Specification	Sat	7:00 pm-9:00 pm	W-BUTLER WEST
348	Safety	Tue	11:00 am-1:00 pm	W-WASHINGTON
349	Nuclear Structures M1	Tue	8:30 am-12:30 pm	C-317
349	Nuclear Structures M2	Tue	2:00 pm-5:00 pm	C-317
349-AB	Nuclear Structures - Design & Materials	Mon	10:00 am-1:00 pm	C-402
349-C	Nuclear Structures - Anchorage	Mon	2:00 pm-5:00 pm	C-403
350	Environmental Structures	Wed	8:30 am-6:30 pm	C-317/318
350-A	Env Str - General & Concrete	Tue	11:30 am-5:00 pm	W-SOMERSET WEST
350-B	Env Str - Durability	Mon	8:30 am-1:00 pm	C-311
350-C	Env Str - Reinf & Devel	Sun	8:30 am-11:30 am	C-307
350-D	Env Str - Structural	Mon	8:30 am-6:30 pm	C-307
350-E	Env Str - Precast/ Prestressed	Sun	1:00 pm-5:00 pm	W-BUTLER EAST

Numerical Committee Meeting Listing

W = Westin C = Convention Center

Code	Committee	Day	Time	Room Name
350-F	Env Str - Seismic	Tue	8:30 am-3:30 pm	W-CAMBRIA WEST
350-G&K	Env Str - Tightness Testing/Haz Mat	Tue	8:30 am-11:30 am	W-EXECUTIVE BOARDROOM
350-H	Env Str - Editorial	Mon	1:00 pm-2:30 pm	W-SOMERSET WEST
350-J	Env Str - Education	Mon	3:30 pm-6:30 pm	W-WASHINGTON
350-L	Env Str - Specification	Tue	4:00 pm-6:00 pm	W-CAMBRIA WEST
350-SC	Env Str - Steering Comm	Sun	11:30 am-1:00 pm	W-LAWRENCE
351	Equip Foundations	Mon	11:00 am-1:00 pm	C-316
351-B	Grtng Fndns - Equip Machnry	Mon	8:15 am-10:00 am	C-316
352	Joints	Sun	2:00 pm-5:00 pm	C-404
355	Anchorage	Sun	1:30 pm-5:00 pm	C-317
355-TG	Anchorage TG	Mon	8:30 am-11:00 am	C-318
357	Offshore & Marine	Tue	8:30 am-10:30 am	W-SOMERSET WEST
359	Nuclear Reactors	Wed	9:30 am-5:00 pm	C-316
359-A	Design	Wed	7:30 am-9:30 am	C-316
359-B	Materials, Fabrication & Examination	Wed	8:30 am-9:30 am	W-EXECUTIVE BOARDROOM
359-C	Modernization	Wed	8:30 am-9:30 am	W-BUTLER WEST
360	Slabs on Ground	Mon	2:00 pm-6:30 pm	W-WESTMORELAND
362	Parking Structures	Mon	1:00 pm-5:00 pm	C-401
362-A	Parking Str - Standard	Mon	8:30 am-12:00 pm	W-CAMBRIA WEST
363	High-Strength	Wed	8:30 am-11:30 am	W-SOMERSET WEST
363-A	High-Strength Lightweight Concrete	Tue	3:30 pm-5:00 pm	W-BUTLER WEST
364	Rehabilitation	Mon	1:00 pm-3:00 pm	W-PENNSYLVANIA BALLROOM
365	Service Life	Mon	2:00 pm-4:00 pm	C-405
369	Seismic Rehab	Mon	3:00 pm-5:00 pm	C-311
370	Dynamic & Vibratory Effects	Sun	9:00 am-11:30 am	C-404

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

Code	Committee	Day	Time	Room Name
371	Elevated Tanks with Concrete Pedestals	Tue	10:00 am-12:30 pm	W-BUTLER EAST
372	Prestressed/Wire Wrapped	Tue	3:00 pm-5:00 pm	W-BUTLER EAST
374	Seismic Design	Mon	8:30 am-12:30 pm	C-403
374-TG	Protocol for Testing RC Structural Elements	Sun	11:30 am-1:00 pm	C-307
375	Design for Wind Loads	Mon	1:00 pm-3:30 pm	W-WASHINGTON
376	RLG Containment Structures M1	Sat	3:00 pm-5:00 pm	W-PENNSYLVANIA EAST
376	RLG Containment Structures M2	Sun	9:00 am-5:00 pm	C-316
376-TG	RLG Containment Structures TG M1	Mon	9:00 am-5:00 pm	W-FAYETTE
376-TG	RLG Containment Structures TG M2	Tue	9:00 am-5:00 pm	C-307
376-TG	RLG Containment Structures TG M3	Wed	9:00 am-5:00 pm	C-307
408	Development and Splicing	Sun	8:30 am-11:30 am	C-306
408-A	Mech Splices	Sun	8:00 am-8:30 am	C-306
421	Reinf Slabs	Sun	10:00 am-1:00 pm	C-405
423	Prestressed	Mon	8:30 am-12:30 pm	C-320
423-E	Prestress Losses	Sun	1:30 pm-3:00 pm	W-WASHINGTON
423/445	Adhoc Grp on Shear in Prestress Conc	Sun	3:00 pm-5:00 pm	W-CRAWFORD WEST
435	Deflection	Mon	3:30 pm-6:30 pm	W-CAMBRIA EAST
437	Strength Evaluation	Mon	10:30 am-12:30 pm	C-321
439	Steel Reinforcement	Mon	8:30 am-10:00 am	C-319
439-A	Steel Reinforcement - Wire	Sun	3:30 pm-5:00 pm	C-402
440	Fiber Reinforced Polymer	Tue	8:30 am-11:30 am	W-ALLEGHENY 1
440-F	FRP - Repair Strengthening	Mon	12:00 pm-2:30 pm	W-ALLEGHENY 3
440-G	FRP - Student	Mon	8:30 am-10:00 am	C-404
440-H	FRP - Reinforced Concrete	Sun	8:30 am-11:30 am	W-ALLEGHENY 2
440-J	FRP - Stay in Place Forms	Sun	12:30 pm-2:30 pm	C-315

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

Code	Committee	Day	Time	Room Name
440-L	FRP - Durability	Sun	2:30 pm-4:30 pm	W-ALLEGHENY 1
440-M	FRP - Repair of Masonry Str	Sun	4:00 pm-5:00 pm	W-ALLEGHENY 3
441	Columns	Mon	11:30 am-2:00 pm	C-317
441-E	Columns Multi-Spiral Reinf	Sun	3:00 pm-4:30 pm	W-CAMBRIA EAST
444	Experimental Analysis	Tue	8:00 am-10:00 am	C-321
445	Shear & Torsion	Mon	2:00 pm-6:00 pm	C-319
445-A	Shear & Torsn - Strut & Tie	Sun	10:30 am-1:30 pm	W-WASHINGTON
445-B	Shear & Torsn - Seismic Shear	Sun	8:00 am-11:00 am	W-CRAWFORD WEST
445-C	Shear & Torsn - Punching Shear	Sun	1:00 pm-3:00 pm	W-CRAWFORD WEST
445-D	Shear & Torsn - Database	Mon	10:00 am-12:00 pm	W-BUTLER EAST
445-E	Shear & Torsn - SOA Torsion	Sun	12:30 pm-2:00pm	C-321
446	Fracture Mechanics	Mon	3:30 pm-5:00 pm	W-SOMERSET WEST
447	Finite Element Analysis	Mon	11:30 am-2:00 pm	C-405
506	Shotcreting	Tue	8:30 am-11:30 am	C-318
506-A	Shotcreting - Evaluation	Sun	9:00 am-11:00 am	C-311
506-B	Shotcreting - Fiber Reinforced	Sun	2:00 pm-3:00 pm	W-EXECUTIVE BOARDROOM
506-C	Shotcreting - Guide	Mon	10:30 am-12:30 pm	W-EXECUTIVE BOARDROOM
506-E	Shotcreting - Specifications	Mon	8:30 am-10:30 am	W-EXECUTIVE BOARDROOM
506-F	Shotcreting - Underground	Mon	3:00 pm-4:00 pm	W-CRAWFORD WEST
506-G	Qualifications for Projects	Sun	11:00 am-1:00 pm	C-402
515	Protective Systems	Tue	10:30 am-12:30 pm	W-LAWRENCE
522	Pervious Concrete	Tue	8:30 am-10:30 am	W-PENNSYLVANIA WEST
523	Cellular Concrete	Tue	10:00 am-1:00 pm	C-401
523-A	Cellular - Autoclaved Aerated	Tue	8:30 am-10:00 am	C-401
524	Plastering	Mon	8:30 am-10:00 am	W-CRAWFORD EAST

Numerical Committee Meeting Listing

W = Westin **C = Convention Center**

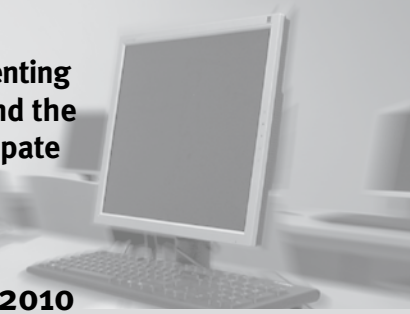
Code	Committee	Day	Time	Room Name
533	Precast Panels	Mon	2:30 pm-4:00 pm	C-316
543	Piles	Mon	8:30 am-11:30 am	C-310
544	Fiber-Reinforced Concrete	Tue	3:30 pm-6:00 pm	W-ALLEGHENY 1
544-A	FRC - Production & Applications	Mon	11:30 am-1:00 pm	W-WESTMORELAND
544-B	FRC - Education	Mon	8:30 am-10:00 am	C-401
544-C	FRC - Testing	Tue	2:00 pm-3:30 pm	C-315
544-D	FRC - Structural Uses	Mon	3:30 pm-6:00 pm	C-318
544-E	FRC - Mechanical Properties	Mon	2:00 pm-3:30 pm	W-BUTLER EAST
544-F	FRC - Durability	Tue	10:30 am-12:00 pm	W-PENNSYLVANIA WEST
546	Repair	Mon	8:30 am-10:30 am	C-321
546-B	Repair - Material Selection Guide	Sun	8:30 am-10:30 am	C-321
546-C	Repair - Guide	Sun	2:00 pm-3:00 pm	W-BUTLER WEST
548	Polymers	Tue	8:30 am-11:30 am	C-403
548-A	Polymers - Overlays	Mon	8:30 am-10:30 am	W-SOMERSET WEST
548-B	Adhesives in Concrete	Mon	1:30 pm-3:30 pm	W-CAMBRIA WEST
548-C	Structural Polymer Design	Mon	10:30 am-12:30 pm	W-SOMERSET WEST
549	Thin Reinforced	Sun	10:30 am-12:30 pm	W-ALLEGHENY 3
549-A	Thin Reinforced - Glass Fiber-Reinforced Concrete	Sun	9:30 am-10:30 am	W-ALLEGHENY 3
550	Precast Structures	Sun	3:00 pm-5:00 pm	W-WASHINGTON
551	Tilt-Up	Sun	9:00 am-12:00 pm	W-BUTLER WEST
552	Cementitious Grouting	Tue	11:30 am-2:00 pm	C-316
555	Recycled	Mon	5:00 pm-6:30 pm	C-320
560	Design & Constr ICFs	Wed	8:30 am-11:30 am	C-310
562	Eval, Repair & Rehab	Sun	1:00 pm-5:00 pm	W-ALLEGHENY 2
562-A	Eval, Repair & Rehab - Life Safety	Sat	6:00 pm-9:00 pm	W-WASHINGTON

Numerical Committee Meeting Listing

W = Westin C = Convention Center

Code	Committee	Day	Time	Room Name
562-B	Eval, Repair & Rehab - Loads	Sun	8:00 am-10:00 am	C-310
562-C	Eval, Repair & Rehab - Structural Analysis	Sat	6:00 pm-9:00 pm	W-BUTLER EAST
562-D	Eval, Repair & Rehab - Structural Repair Design	Sat	1:00 pm-4:00 pm	W-BUTLER WEST
562-E	Eval, Repair & Rehab - Durability Qlty Assurance	Sat	6:00 pm-9:00 pm	W-FAYETTE
562-F	Eval, Repair & Rehab - General	Sat	1:00 pm-5:00 pm	W-BUTLER EAST
563	Specs for Repair of Struct Conc in Bldgs	Tue	1:00 pm-5:00 pm	C-401
563-C	Excavation/Surface Preparation	Tue	7:00 am-9:00 am	C-311
563-FG	Mixtures/Placing/ Curing	Tue	7:00 am-9:00 am	W-LAWRENCE
563-H	Architectural/Precast Concrete	Tue	9:00 am-11:00 am	W-WASHINGTON
563-I	Proprietary Grouts/ Concrete	Tue	7:00 am-9:00 am	W-BUTLER WEST
563-JK	Crack Repair/External Reinforcement	Tue	9:00 am-11:00 am	W-BUTLER WEST
563-L	Prestressed Concrete	Tue	7:00 am-9:00 am	W-WASHINGTON
563-MN	Polymer Overlays/ Protection Systems	Tue	7:00 am-9:00 am	C-320
563-P	Corrosion	Tue	9:00 am-11:00 am	C-311

ACI Web Sessions



This week, ACI will be presenting several live Webinars. Attend the sessions in person, participate virtually, or watch them following the convention.

Saturday, October 23, 2010

1:00 pm-5:00 pm
ACI Sustainability Forum III

Tuesday, October 26, 2010

Sustainable Design with Concrete
Part 1: 9:00 am-12:00 pm edt
Part 2: 2:00 pm-5:00 pm edt

To register, or watch them following the convention, visit **www.aciconvention.org**.

ACI also records and makes select presentations from ACI Convention sessions available online and on-demand. Each week, a new 1-hour block of presentations will be posted to the Web site **free of charge**!

Watch for these upcoming sessions!
What About Adhesive Anchors? (Part 2)
Contractors' Day Session: Xtreme Local Projects
Design Using the Strut-and-Tie Method (Part 1)
Design Using the Strut-and-Tie Method (Part 2)

You can also view past sessions such as:
Sustainable Design in Structural Concrete (Part 2)
Sustainable Design in Structural Concrete (Part 3)
Durability of Concrete for Pavements (Part 1)
Durability of Concrete for Pavements (Part 2)
What About Adhesive Anchors? (Part 1)

See the full archive of sessions at http://www.concrete.org/education/Webcasts/Past-Webcasts.html.

Saturday, October 23, 2010
1:00 pm-5:00 pm

ACI Concrete Sustainability Forum III **C-406**
Sponsored by 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
Chair of ISO/TC 71/SC 8 and Professor
Kagawa University
Takamatsu, Japan

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

As construction in the BRICs (Brazil, Russia, India, and China) and other developing countries increases, the associated consumption of energy and resources will also increase. Attendees to the ACI Concrete Sustainability Forum III will be provided with a comprehensive overview of the current world situation, including the latest information from countries that are pioneering concrete sustainability, and will participate in discussions on future action regarding sustainability opportunities (both in the U.S. and internationally) for the concrete industry. This forum will reflect the development of ISO/TC 71/SC 8 standards and provide attendees with knowledge and resources to identify opportunities in their careers, ACI committee work, and work with other organizations to reduce environmental impacts and foster a concrete industry focused on sustainability.

ACI is a U.S. Green Building Council (USGBC) Education Provider and is committed to enhancing the ongoing professional development of the building industry and LEED Professional through high-quality education programs. As a USGBC Education Provider, ACI has agreed to abide by USGBC-established operational and educational criteria, and is subject to annual reviews and audits for quality assurance.

GBCI CMP

USGBC has approved this session for 4 GBCI CE hours toward the LEED Credentialing Maintenance Program. **To receive credit, you MUST see the session monitor at the back of the room to sign in and out**.

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

Attention Architectural License Holders!
If you have an architectural license and would like Continuing Education Credit through AIA, please see the session monitor at the back of the room to obtain a copy of Form C. Return completed forms to ACI Registration.

Saturday, October 23, 2010
1:00 pm-5:00 pm

ACI Concrete Sustainability Forum III (cont.) **C-406**

Concrete Sustainability in Brazil **1:00 pm**
Jose M. Filho, President, IBRACON, Sao Paulo, Brazil

Sustainability Initiatives of India towards Maintaining the Growth Story of 8% + GDP **1:30 pm**
Surendra K. Manjrekar, Chairman and Managing Director, Sunanda Specialty Coatings, Ltd., Mumbai, India

China, the Largest Concrete Market in the World is Working on Sustainability **2:00 pm**
Xuehui An, Professor, Tsinghua University, Beijing, China

Low Carbon Green Growth of Korea and Concrete **2:30 pm**
Dong-Uk Choi, Professor, Hankyong National University, Gyeonggi-Do, Korea; **DoHeun Lee**, Korea National Housing Corp; and **HaSun Jung**, Korea Concrete Institute

Break **3:00 pm**

Setting Green-House-Gas Carbon Accounting Standards for Construction Materials: A Case Study **3:10 pm**
Phillip Williams, Vice President, Webcore Builders, San Francisco, CA

Life Cycle Assessment of Pavements **3:40 pm**
Alex Loijos, Research Assistant, Massachusetts Institute of Technology Concrete Sustainability Hub, Cambridge, MA

Development of ISO Environmental Standards for Concrete Sectors **4:10 pm**
Koji Sakai, Chair of ISO/TC 71/SC 8 and Professor, Kagawa University, Takamatsu, Japan; and **Takafumi Noguchi**, University of Tokyo

Questions and Discussion **4:40 pm**

= AIA/USGBC approved session

Sunday, October 24, 2010
8:00 am-9:00 am

Convention #1 Breakfast **W-ALLEGHENY 1**
Sponsored by the ACI Convention Committee

Session Moderator: Kari Yuers
President & CEO
Kryton International Inc.
Vancouver, BC, Canada

First-time convention attendees are invited to join Kari Yuers, Chair of the ACI Convention Committee, for a continental breakfast and a brief session to orient you to the week ahead. Attendees will also have the opportunity to meet other convention attendees.

Sunday, October 24, 2010
12:00 pm-2:00 pm

✓**International Lunch** **W-WESTMORELAND**
$30 U.S. per person
Sponsored by the ACI International Committee

Speaker: Xuehui An
Professor
Tsinghua University
Beijing, China

Topic: China, the World's Largest Concrete Market, is Tackling Sustainability Issues.

Global warming caused by excessive emissions of CO_2 attracted great attention around the world. The construction sector, especially cement and concrete industry, is responsible for nearly 50% of the emmision. In 2009 it was estimated that China manufactured 1.63 billion tons of cement, more than 50% of the world total cement production.

Major construction projects in China, including building, transportation, energy, and water supply will be introduced, and efforts of using fly ash to reduce carbon footprint will be presented. Using dam construction as an example, development of low-carbon concrete construction technologies will be presented, including a procedure to estimate carbon abatements.

A new type of dam construction technology developed in China, rock-filled concrete (RFC), will also be presented as an example of sustainable concrete construction development in China.

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 24, 2010
12:00 pm-5:00 pm

Student Egg Protection Device Competition **C-EAST ATRIUM**
Sponsored by the ACI Pittsburgh Area Chapter and ACI Committee S801, Student Activities

Session Moderator: Lawrence H. Taber
Structural Engineer
Black & Veatch
Overland Park, KS

ACI's nationally recognized Student Competitions offer students the opportunity to participate in interesting and educational concrete projects. This fall, students will compete in the Egg Protection Device Competition, where they will design and build the highest-impact load-resistant plain or reinforced concrete egg protection device. Learn and report on concrete's sustainable benefits related to durability, impact resistance, and other real-life aspects that an EPD simulates.

First Place Team from the Concrete Projects Competition

Modulus of Elasticity and Mechanical Behavior of Ultra High Performance Concrete **12:00 pm**
Mainor E. Bojorquez, Cadet, United States Military Academy, West Point NY; and **David T. Carlson** and **Alexander J. Vanhout**, United States Military Academy

Sunday, October 24, 2010
2:00 pm-5:00 pm

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 1 **C-302**
Sponsored by ACI Committees 370, Short Duration Dynamic and Vibratory Load Effects, and Joint ACI-ASCE Committee 447, Finite Element Analysis of Reinforced Concrete Structures

Session Co-Moderators: Ganesh Thiagarajan
Associate Professor of Civil Engineering
University of Missouri-Kansas City
Kansas City, MO

Eric Williamson
Associate Professor
University of Texas
Austin, TX

Christopher Conley
Associate Professor
United States Military Academy
West Point, NY

This three-part session will present papers on the behavior of concrete structures subjected to blast and impact. The objective of these sessions is to focus on new developments in the following areas: experimental investigations in the behavior of concrete/masonry structures subjected to extreme loading (blast and impact), advanced constitutive models for concrete subjected to extreme loading and high strain rates, application of simplified SDOF/MDOF methods in practical applications, numerical models comparing computed results with experimental data, and practice-oriented applications of extreme loading on concrete structures and experience of GSA and UFC specifications.

Explosive Breaching of Reinforced Concrete Walls: Experimental Efforts and Numerical Simulations **2:00 pm**
Stephen Akers, Engineer, U.S. Army Corps of Engineers, Vicksburg, MS; and **Denis Rickman,** U.S. Army Corps of Engineers

Large-Deflection Response of Fully Grouted Reinforced Masonry Walls to Static and Dynamic Out-of-Plane Pressure **2:30 pm**
Robert S. Browning, Student, U.S. Army Engineer Research & Development Center, Vicksburg, MS; and **James S. Davidson**, Auburn University

Sunday, October 24, 2010
2:00 pm-5:00 pm

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 1 (cont.) **C-302**

Size and Strain Rate Effect Comparison of Three Concrete Material Models in LSDYNA **3:00 pm**
Ganesh Thiagarajan, Associate Professor of Civil Engineering, University of Missouri-Kansas City, Kansas City, MO; **Rasekh Rahimzadeh**, and **Anirudha Kadambi Vasudevan**, University of Missouri-Kansas City

Finite Element Simulation of Foam-Insulated Prestressed Concrete Sandwich Panels Subjected to Blast Load **3:30 pm**
James S. Davidson, Auburn University, Auburn University, AL; and **Michael Newberry**, Auburn University

Blast Resistance of Reinforced Concrete Elements Subjected to Simulated Blast Loading: Shock Tube Testing **4:00 pm**
Alan Lloyd, Graduate Research Assistant, University of Ottawa, Ottawa, ON, Canada; and **Eric Jacques**, University of Ottawa

Reliability-Based Design Optimization of a Precast Panel Subjected to Blast Loading **4:30 pm**
Darrell Barker, Vice President of Explosion Hazards, ABS Consulting Inc., San Antonio, TX; and **Ali Sari**, ABS Consulting Inc.

Sunday, October 24, 2010
2:00 pm-5:00 pm

Design of Sustainable Concrete Bridges **C-304**
Sponsored by ACI Committees 130, Sustainability of Concrete, and 130-G, Education/Certification, and Joint ACI-SEI Committee 343, Concrete Bridge Design

Session Moderator: Nur Yazdani
Professor and Chairman of Civil Engineering
University of Texas Arlington
Arlington, TX

Highway concrete bridge infrastructure in the U.S. is aging rapidly. Many bridges are functionally or structurally deficient and there is a lack of sufficient available funds for the upkeep of these bridges. This session will include topics such as using green concrete in bridges and recycled material, designing with sustainable technologies, and designing bridges with long-term durability aspects. The session will tie into the convention theme of "Green Concrete in the Steel City."

ACI is a U.S. Green Building Council (USGBC) Education Provider and is committed to enhancing the ongoing professional development of the building industry and LEED Professional through high-quality education programs. As a USGBC Education Provider, ACI has agreed to abide by USGBC-established operational and educational criteria, and is subject to annual reviews and audits for quality assurance.

GBCI CMP

USGBC has approved this session for 3 GBCI CE hours toward the LEED Credentialing Maintenance Program. **To receive credit, you MUST see the session monitor at the back of the room to sign in and out**.

The American Institute of Architects (AIA) has approved this session for 3 Learning Units. ACI is an AIA/CES Registered Provider.

Attention Architectural License Holders!
If you have an architectural license and would like Continuing Education Credit through AIA, please see the session monitor at the back of the room to obtain a copy of Form C. Return completed forms to ACI Registration.

Sustainable Concrete Bridges for the 22nd Century **2:00 pm**
Vic Perry, Vice President and General Manager, Lafarge North America Inc., Calgary, AB, Canada

Sunday, October 24, 2010
2:00 pm-5:00 pm

Design of Sustainable Concrete Bridges (cont.) **C-304**

Using Prestressed Aramid Fiber Reinforced Polymer Tendons for Enhancing Bridge Sustainability **2:25 pm**
Monique Head, Assistant Professor, Texas A&M University, College Station, TX; and **Shobeir Pirayeh Gar** and **S. Hurlebause**, Texas A&M University

Sustainable Highway Bridges on the I-99 Corridor in Central Pennsylvania: Update on the Long-Term Bridge Deck Durability Study **2:50 pm**
David Tepke, Consultant, Sutton Kennerly Associates, Greensboro, NC; and **Paul Tikalsky**, University of Utah

The Innovative FlexiArch for Sustainable Short-Span Concrete Bridges **3:15 pm**
Adrian Long, Professor and Dean, Queen's University, Belfast, UK; and **Abhey Gupta** and **Jim Kirkpatrick**, Queen's University

Sustainable Bridge Design with Internal Curing **3:40 pm**
John Roberts, Chairman, Northeast Solite Corp., Richmond, VA; and **Bruce Jones**, Northeast Solite Corp.

Reflective Concrete for Safe, Sustainable Bridges **4:05 pm**
Larry Rowland, Manager of Marketing and Technical Services, Lehigh Cement Company, Allentown, PA

Accelerated Curing of Bridge Piles with Silica Fume for Durability **4:30 pm**
Nur Yazdani, Professor and Chairman of Civil Engineering, University of Texas Arlington, Arlington, TX

= AIA/USGBC approved session

Sunday, October 24, 2010
2:00 pm-5:00 pm

Emerging Technologies in Civil Infrastructure Applications C-301
Sponsored by the ACI Strategic Development Council and TAC Technology Transfer Advisory Group (TTAG)

Session Co-Moderators: Joseph C. Sanders
Vice President
Charles Pankow Builders Ltd.
Pasadena, CA

Claude Bedard
Vice President & General Manager
The Euclid Chemical Co.
St. Hubert, QC, Canada

The joint goal of the ACI Strategic Development Council (SDC) and TAC Technology Transfer Advisory Group (TTAG) is collaborating to solve the concrete industry's technology problems and advancing the adoption of industry-critical technologies. This session highlights a variety of current emerging industry technologies.

Technology Transfer Advisory Group: A New Start 2:00 pm
Emmanuel K. Attiogbe, Manager of Technical Services, BASF Corporation, Solon, OH

Vision 2020: An Update 2:30 pm
K. Nam Shiu, Vice President, Walker Restoration Consultants, Chicago, IL

Building Information Modeling for Concrete 3:00 pm
Peter Carrato, Principal Civil Engineer, Bechtel Corporation, Frederick, MD

Performance Criteria for Concrete Materials: Update of ITG-8 3:30 pm
Mark Chrzanowski, Principal Structural Technologist, Ch2M Hill, Gainesville, FL

ITG-6: High-Strength Reinforcing Bar 4:00 pm
Paul Zia, Distinguished Professor, North Carolina State University, Raleigh, NC

Sustainable Strategies for Concrete 4:30 pm
Andrea J. Schokker, Professor and Head of Civil Engineering, University of Minnesota, Duluth, MN

Sunday, October 24, 2010
2:00 pm-5:00 pm

Errors in the Design and Construction of Concrete Structures—Examples, Consequences, and Mitigation C-305
Sponsored by ACI Committees 345, Concrete Bridge Construction, Maintenance, and Repair, and 348, Structural Safety

Session Co-Moderators: Mahmoud Maamouri
Vice President
Computerized Structural Design S.C.
Milwaukee, WI

Yail Jimmy Kim
Assistant Professor
North Dakota State University
Fargo, ND

This session will feature presentations discussing errors in the design and construction of concrete structures. Errors, whether human, material, or equipment related, could occur during the design process or construction phase of projects. The purpose of this session is to put forward some examples that identify where these types of errors occurred and show the consequences of such errors.

Twenty Rules for Successful Design of Concrete Structures 2:00 pm
Michael A. West, Vice President, Computerized Structural Design S.C., Milwaukee, WI

Perspectives from a Forensic Engineer 2:30 pm
John F. Vincent, Principal Structural Engineer, CTLGroup, Skokie, IL; and **Jeffrey L. Garrett**, CTLGroup

How Structural Engineers Find Errors in Building Design 3:00 pm
James H. Hanson, Associate Professor, Rose-Hulman Institute of Technology, Terre Haute, IN

Design and Construction of Liquefied Natural Gas (LNG) Tanks 3:30 pm
Josef Roetzer, Senior Engineering Manager, Dywidag International GmbH, Munich, Germany; and **Norbert Jung** and **Manfred Linke**, Dywidag International GmbH

Sunday, October 24, 2010
2:00 pm-5:00 pm

Errors in the Design and Construction of Concrete Structures—Examples, Consequences, and Mitigation (cont.) **C-305**

Why and What to Do? PT Beams and Midspan Cracking, and a Major Column with a Very Steep Crack **4:00 pm**
James C. LaBelle, Senior Associate, Computerized Structural Design S.C., Milwaukee, WI

Errors in Design and Construction of Two-Way Slab Systems **4:30 pm**
Andrew Scanlon, Professor of Civil Engineering, Pennsylvania State University, University Park, PA

Sunday, October 24, 2010
2:00 pm-5:00 pm

High-Performance Concrete for Sustainable Columns **C-303**
Sponsored by Joint ACI-ASCE Committee 441, Reinforced Concrete Columns

Session Moderator: Riyadh Hindi
Associate Professor
St. Louis University
St. Louis, MO

This session will include presentations on the design and behavior of high-performance concrete for sustainable columns. The sustainable columns will enhance the long-term behavior and performance of the entire structure. This session will focus on the most recent developments and advancements in the design, construction, and experimental behavior of sustainable building and bridge columns using high-performance concrete. The session will cover case studies and research, including theoretical and experimental investigations, to enhance the behavior of concrete columns for sustainable structures. This session will be suitable for researchers, practitioners, and students.

Sustainable Concrete Columns with Multi-Spiral Shear Reinforcement **2:00 pm**
Tony Liu, Senior Research Fellow, National Taiwan University, Taipei, Taiwan; and **Samuel Y. L. Yin**, National Taiwan University

Predicting Stiffness and Ductility of RC Columns Using Artificial Neural Networks **2:30 pm**
Aly Said, Assistant Professor, University of Nevada, Las Vegas, NV; and **N. Gordon**, University of Nevada

Cost-Effective High-Performance Self-Consolidating Concrete for Sustainable Structures **3:00 pm**
Hassan El-Chabib, Assistant Professor, Bradley University, Peoria, IL

Sustainable Rehabilitation of Concrete Columns **3:30 pm**
Shamim Sheikh, Professor, University of Toronto, Toronto, ON, Canada

Confined Analysis for Eccentric Circular Concrete Columns **4:00 pm**
Hayder Rasheed, Associate Professor, Kansas State University, Manhattan, KS; and **Asad Esmaeily** and **Ahmed Abd El-Fattah,** Kansas State University

Sunday, October 24, 2010
2:00 pm-5:00 pm

High-Performance Concrete for Sustainable Columns (cont.) **C-303**

High-Strength Concrete Confined with Cross Spirals for Sustainable Columns **4:30 pm**
Riyadh Hindi, Associate Professor, St. Louis University, St. Louis, MO; and **Jonathan Westl**, Bradley University

Sunday, October 24, 2010
5:15 pm-6:30 pm

Opening Session and Hardy Cross Commemorative Lecture Series **C-PITTSBURGH BALLROOM B & C**

The ACI Fall 2010 Convention officially begins during the Opening Session and Hardy Cross Commemorative Lecture Series. Additionally the Distinguished Achievement and Jean-Claude Roumain Awards will be presented.

Edward Finkel, President of Edward B. Finkel Associates, will deliver a lecture titled "The Artful Professor" as part of the Hardy Cross Lecture Series. During this lecture, personal reflections and reminiscences of Professor Cross will be discussed, including his remarkable innovations in the field of structural engineering. Cross's influential role in the concrete construction industry, including his teaching principles associated with visualization, scale, and order of magnitude—reduced to simple arithmetic approximations—will be discussed.

Edward Finkel has been in private practice since 1962, providing structural engineering services to architects and private industry. Named a fellow of the American Concrete Institute and a Life Member of the American Society of Civil Engineers, Finkel has received awards including the ACI New Jersey Chapter's Grand Award and the American Concrete Institute's Construction Award.

Sunday, October 24, 2010
6:30 pm-7:30 pm

Opening Reception **C-BALLROOM FOYER**
Sponsored by the ACI Pittsburgh Area Chapter

After the Opening Session, make your way to the exhibit area to enjoy a beverage from a cash bar and light refreshments. It's a great place to catch up with friends, network with concrete professionals, talk with exhibitors, and meet new convention attendees. This is a networking opportunity you won't want to miss!

Sunday, October 24, 2010

DINE AROUND **C-BALLROOM FOYER**

On Sunday, October 24, 2010, ACI attendees will have the opportunity to participate in a Dine Around in downtown Pittsburgh. ACI has reserved seats at the following local restaurants in 30-minute increments from 7:00 pm to 8:30 pm.

Mt. Washington Area
Monterey Bay Fish Grotto
LeMont

Strip District
Kaya
Lidia's
Roland's Seafood Grill

Station Square
Grand Councourse
Buca di Beppo
Joe's Crab Shack

Close to Hotels
Capital Grille
Morton's Steakhouse
Original Fish Market
Sonoma Grille
Bravo Franco
McCormick & Schmick's
Braddock's
Ruth's Chris Steakhouse

- If you have requested a reservation in advance, please see the Dine Around Information Table to obtain your confirmation.
- If you have not already made a reservation, please go to the Dine Around Information Table located in the C-Ballroom Foyer to select an available restaurant.
- See the Dine Around Information Table for transportation options.

Dine Around Information Table Hours:

Saturday	2:00 pm-6:00 pm
Sunday	7:30 am-2:00 pm

Sunday, October 24, 2010
7:30 pm-10:00 pm

123 Forum **C-305**
Sponsored by ACI Committee 123, Research and Current Developments

Following its long tradition, ACI Committee 123 brings industry experts together again in Pittsburgh to debate on another subject and to share their views with ACI convention attendees. The debate this time is whether or not we are focusing enough on sustainable development. Sustainable materials and construction have received considerable attention during the last several years and significant accomplishments have been made. However, is our progress keeping pace with the ever-growing needs of a sustainable development? Do we realize the importance of sustainable development? Are we adequately addressing environmental concerns related to the production of portland cement and depleting natural raw resources? What is carbon footprint and how do we calculate it? Can we compare and contrast the sustainable attributes of different materials, components and systems? Are we making the best use of supplementary cementitious materials? Are we exploring innovative aggregate types? Are we utilizing nonpotable water sources for making and curing concrete? Are we improving the performance of substandard raw materials through innovative uses of chemical admixtures? Our panelists in Pittsburgh will address these and many other questions you might have.

Dinner Concession ***5:00 pm-9:00 pm***
Sandwiches, salads, and other grab-and-go items will be available for purchase.

Sunday, October 24, 2010
7:30 pm-10:00 pm

Hot Topic Session: Full-Scale Testing of ACI 318 in Chile **C-304**
Sponsored by the Hot Topic Committee

Session Moderator: H.S. Lew
Senior Structural Engineer
National Institute of Science & Technology
Gaithersburg, MD

The earthquake that struck Chile on February 27, 2010 caused severe damaged to many engineered structures. Lessons from this earthquake are highly relevant to the United States as well as to Chile since both countries have comparable seismic design provisions in building codes and standards. In some cases, Chilean provisions are derived directly from those of U.S. standards. Post-earthquake observations have raised a number of important questions as to the adequacy of both U.S. and Chilean seismic code provisions. Four experts, two from Chile and two from the U.S., who have participated in post-earthquake investigations, will present studies on earthquake effects on engineered structures, code implications, design-related issues, and studies needed to improve seismic provisions in U.S. and Chilean codes and standards.

Introduction **7:30 pm**
H.S. Lew, Senior Structural Engineer, National Institute of Science and Technology, Gaithersburg, MD

Chilean Seismic Design Criteria and Philosophy **7:35 pm**
Augusto Holmberg, General Manager, ICH – Instituto de Chileno Cemento, Santiago, Chile

Structural Performance – What Went Right and What Went Wrong **8:05 pm**
Fernando Yanez, Professor, IDIEM University of Chile, Santiago, Chile

U.S. vs. Chilean Seismic Design Philosophy and Practices **8:35 pm**
James R. Harris, Principle, J R Harris & Company, Denver, CO

How Good is Current ACI 318? **9:05 pm**
Jack Moehle, Professor, University of California-Berkeley, Berkeley, CA

Questions and Discussion **9:35 pm**

Dinner Concession ***5:00 pm-9:00 pm***
Sandwiches, salads, and other grab-and-go items will be available for purchase.

Sunday, October 24, 2010
9:00 pm-10:30 pm

Student and Young Professional Networking Event **SHARP EDGE BISTRO**
922 Penn Avenue

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

The ACI Collegiate Concrete Council and 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. Food and beverages will be available for purchase.

Monday, October 25, 2010
6:30 am-8:15 am

Workshop for Technical Committee Chairs **C-PITTSBURGH BALLROOM B & C**

Sponsored by the ACI Technical Activities Committee

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 25, 2010
7:00 am-8:30 am

Speaker Skills Training Breakfast: Teaching Methods and Educational Materials **W-ALLEGHENY 2**

Sponsored by ACI Committee S802, Teaching Methods and Educational Materials

Session Moderator: James H. Hanson
Associate Professor
Rose-Hulman Institute of Technology
Terre Haute, IN

Speaker: Fred Meyer
Associate Professor and Director of Civil Engineering
U.S. Military Academy
West Point, NY

Topic: Preparing for a Presentation or Lesson Using Board Notes

The Speaker Training Breakfast is offered at each convention to present speakers with resources and tips to be better speakers. A special presentation by Fred Meyer from the U.S. Military Academy at West Point will offer a methodical way to prepare for a presentation or a lesson in class using a technique called "board notes." A continental breakfast will be served.

Monday, October 25, 2010
9:00 am-12:00 pm

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 2 **C-302**
Sponsored by ACI Committees 370, Short Duration Dynamic and Vibratory Load Effects, and Joint ACI-ASCE Committee 447, Finite Element Analysis of Reinforced Concrete Structures

Session Co-Moderators: Ganesh Thiagarajan
Associate Professor of Civil Engineering
University of Missouri-Kansas City
Kansas City, MO

Eric Williamson
Associate Professor
University of Texas
Austin, TX

Christopher Conley
Associate Professor
United States Military Academy
West Point, NY

This three-part session will present papers on the behavior of concrete structures subjected to blast and impact. The objective of these sessions is to focus on new developments in the following areas: experimental investigations in the behavior of concrete/masonry structures subjected to extreme loading (blast and impact), advanced constitutive models for concrete subjected to extreme loading and high strain rates, application of simplified SDOF/MDOF methods in practical applications, numerical models comparing computed results with experimental data, and practice-oriented applications of extreme loading on concrete structures and experience of GSA and UFC specifications.

An Investigation of UHPC/rpc Materials for Enhanced Penetration Resistance **9:00 am**
Brian H. Green, Research Geologist, U.S. Army Engineer Research and Development Center, Vicksburg, MS; and **Beverly P. DiPaolo**, U.S. Army Engineer Research and Development Center

Effects of High-Strength Materials on Blast Response of Reinforced Concrete Panels **9:30 am**
Stephen D. Robert, U.S. Army Engineer Research and Development Center, Vicksburg, MS; and **Stanley C. Woodson**, U.S. Army Engineer Research and Development Center

Monday, October 25, 2010
9:00 am-12:00 pm

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 2 (cont.) C-302

Dynamic Compressive Toughness of High-Strength Fiber-Reinforced Concrete **10:00 am**
Lihe Zhang, Materials Engineer, AMEC Earth & Environmental, Burnaby, BC, Canada; and **Sidney Mindess**, University of British Columbia

Full-Scale Blast Testing of Hybrid Barrier Systems **10:30 am**
Natalia L. Carey, Graduate Research Assistant, Missouri University of Science and Technology, Rolla, MO; and **John J. Myers**, Missouri University of Science and Technology

Use of Carbon Fiber Anchors to Improve Performance of FRP-Strengthened Concrete Structures Subjected to Blast and Impact Loads **11:00 am**
Sarah Orton, Assistant Professor, University of Missouri Columbia, Columbia, MO; and **Joseph Kirby**, University of Missouri Columbia

Bridge Vulnerability and Blast Mitigation Research **11:30 am**
Vincent P. Chiarito, U.S. Army Engineer Research and Development Center, Vicksburg, MS; and **James C. Ray**, U.S. Army Engineer Research and Development Center

Monday, October 25, 2010
9:00 am-12:00 pm

Hybrid Systems for Sustainable Construction, Part 1 **C-303**
Sponsored by ACI Committees 335, Composite and Hybrid Structures, and 440, Fiber Reinforced Polymer Reinforcement

Session Co-Moderators: Kent A. Harries
Associate Professor
University of Pittsburgh
Pittsburgh, PA

Paul Ziehl
Assistant Professor
University of South Carolina
Columbia, SC

Composite and hybrid construction offers several advantages over conventional construction, including optimal usage of the combined material systems. This session covers the history of hybrid construction and demonstrates key advantages.

Evolution of Design Provisions for Composite Columns **9:00 am**
Richard W. Furlong, Professor, University of Texas at Dallas, Richardson, TX

Composite Construction with FRP Materials—Overview and Applications **9:25 am**
Kent A. Harries, Associate Professor, University of Pittsburgh, Pittsburgh, PA

Precast Concrete-Filled Tube Beams for Sustainable Construction **9:50 am**
Chris Ramseyer, Assistant Professor, University of Oklahoma, Norman, OK; and **Thomas Kang** and **Aaron Probst**, University of Oklahoma

Experimental Study of Fabric-Reinforced Cement-Based Composites under Dynamic Loading **10:15 am**
Deju Zhu, Student, Arizona State University, Tempe, AZ; **Alva Peled**, Ben-Gurion University; and **Barzin Mobasher**, Arizona State University

Monday, October 25, 2010
9:00 am-12:00 pm

Hybrid Systems for Sustainable Construction, Part 1 (cont.) C-303

Shake Table Study of the Sliding Behavior between Steel and Mortar **10:40 am**
Jason McCormick, Assistant Professor, University of Michigan, Ann Arbor, MI; **Takuya Nagae**, National Research Institute for Earth Science and Disaster Prevention; **Masahiro Ikenaga**, Tohoku University; **Peng-Cheng Zhang**, Xiamen University; and **Masayoshi Nakashima**, Kyoto University

Confinement of Concentrically and Eccentrically Loaded Concrete-Filled Steel Tubes **11:05 am**
Hayder A. Rasheed, Assistant Professor, Kansas State University, Manhattan, KS; and **Ahmed Abd El Fattah**, Kansas State University

Experimental Study of Flexural Behavior of Concrete-Encased Steel Beams **11:30 am**
Chien-Chung Chen, PhD Candidate, Pennsylvania State University, State College, PA; and **Cheng-Cheng Chen**, National Taiwan University of Science and Technology

Monday, October 25, 2010
9:00 am-12:00 pm

Practical Applications of Numerical Analysis and Design **C-305**
Sponsored by ACI Committees 118, Use of Computers, and Joint ACI-ASCE Committee 447, Finite Element Analysis of Reinforced Concrete Structures

Session Moderator: John F. Jakovich
Senior Structural Analyst
DYK Incorporated
El Cajon, CA

This session will bring to the surface practical uses of computers and numerical analysis for real-world problems that engineers can apply to their everyday experience, or are already applying to their daily activities.

Stress-Strain Behavior of Confined Concrete under Cyclic Loading **9:00 am**
Iraj H. P. Mamaghani, Associate Professor, University of North Dakota, Grand Forks, ND

Practical Applications of FE Analysis of Unbonded PT Concrete Slabs **9:20 am**
Thomas Kang, Assistant Professor, University of Oklahoma, Norman, OK; and **Yu Huang**, University of Oklahoma

Lessons Learned from Forensic FEA of Failed RC Structures **9:40 am**
James B. Deaton, Graduate Research Assistant, Georgia Institute of Technology, Atlanta, GA; and **Lawrence F. Kahn**, Georgia Institute of Technology

Cracked Section Analysis of Spillway Piers Including Passive Reinforcement **10:00 am**
Lucian Stefan, Student, Montréal University, Montréal, QC, Canada; and **Pierre Leger**, Montréal University

Finite Element Analysis of Circular Prestressed Concrete Water Tank Wall Footings Using Solid Elements **10:20 am**
Christian Badger, Project Engineer, Bates Engineering Inc., Lakewood, CO; and **Robert T. Bates**, Bates Engineering Inc.

Monday, October 25, 2010
9:00 am-12:00 pm

Practical Applications of Numerical Analysis and Design (cont.) **C-305**

Ductility of Precast Prestressed Piles—Practical Results from Nonlinear FEA **10:40 am**
Andrew Budek-Schmeisser, Professor, New Mexico Institute of Mining & Technology, Socorro, NM; and **Gianmario Benzoni,** University of California

Finite Element Analysis of Reinforced Concrete Deck Cracking Due to Shrinkage and Traffic Induced Strains **11:00 am**
Baolin Wan, Associate Professor, Marquette University, Milwaukee, WI; and **Christopher M. Foley** and **Jordan Komp**, Marquette University

Secant Stiffness Method for Inelastic Design of Concrete Structures **11:20 am**
Hong-Gun Park, Professor, Seoul National University, Seoul, South Korea; and **Tae-Sung Eom**, Catholic University of Daegu

Monday, October 25, 2010
9:00 am-12:00 pm

Research in Progress **C-301**
Sponsored by ACI Committee 123, Research and Current Developments

Session Co-Moderators: Aleksandra Radlinska
Assistant Professor
Villanova University
Villanova, PA

Farshad Rajabipour
Assistant Professor
Pennsylvania State University
University Park, PA

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

Design Optimization for a Tall Building Tube System with Belt Walls **9:00 am**
Myoungsu Shin, Assistant Professor, Ulsan National Institute of Science and Technology, Ulsan, Korea; **Thomas H.K. Kang**, University of Oklahoma; **James M. Lafave**, University of Illinois at Urbana-Changpaign; and **Jacob S. Grossman**, Rosenwasser/Grossman Consulting Engineers

Structural Performance of Concrete/Cold-Formed Steel Composite Beams **9:15 am**
Pouria Bahmani, Graduate Research Assistant, South Dakota State University, Brookings, SD; **Nadim I. Wehbe**, South Dakota State University; and **Lionel E. Dayton**, Nucor Research and Development

FHWA Research Program on Lightweight High-Performance Concrete – Shear Performance of AASHTO Type II Prestressed Girders **9:30 am**
Gary Greene, Project Engineer, Professional Service Industries, McLean, VA; and **Ben Graybeal**, Federal Highway Administration

Monday, October 25, 2010
9:00 am-12:00 pm

Research in Progress (cont.) **C-301**

Evaluation of Horizontal Shear Strength in Texas Prestressed Concrete Beams **9:45 am**
Catherine Hovell, Graduate Research Assistant, University of Texas, Austin, TX; and **Alejandro Avendaño**, **James Jirsa**, and **Oguzhan Bayrak**, University of Texas

Building Green: Development and Evaluation of an Environmentally Friendly Concrete **10:00 am**
Michael P. Berry, Assistant Research Professor, Montana State University, Bozeman, MT; and **David Schroeder**, **Brett Larabee**, and **Jerry E. Stephens**, Montana State University

Development and Characterization of Natural Pozzolan-based Geopolymer Cements **10:15 am**
Mauricio Mancio, Department of Civil and Environmental Engineering, University of California, Berkeley, CA; **Paulo J.M. Monteiro**, University of California; and **Jinkai Xue**, **Rodrigo Valladares**, and **Ahmed Mansour**, King Abdullah University of Science and Technology

Quantitative Characterization of Fly Ash Reactivity and Geopolymer Reaction Products **10:30 am**
Katherine Gustashaw, University of Texas, Austin, TX; **Ryan Chancey**, Nelson Architectural Engineers; **Paul Stutzman**, National Institute of Standards and Technology; and **Maria Juenger**, University of Texas

Nano-Synthesis and Characterization of CSH **10:45 am**
Emmy Foley, Student, University of New Mexico, Albuquerque, NM; and **Mahmoud M. Reda Taha**, University of New Mexico

Reactivity of Mimus No. 200 Microfines under Alkaline Conditions and Associated Impacts on the Chemistry and Microstructure of Cement Paste **11:00 am**
Jose F. Munoz, NRC Research Associate, Federal Highway Administration, Turner-Fairbank Highway Research Center, McLean, VA; **Jussara Tanesi**, **Richard C. Meininger**, and **Jack Youtcheff**, Federal Highway Administration, Turner-Fairbank Highway Research Center

Monday, October 25, 2010
9:00 am-12:00 pm

Research in Progress (cont.) **C-301**

Miniature Concrete Prism Test – A Rapid and Reliable Test Method for Assessing Potential Reactivity of Aggregates **11:15 am**
Enamur Latifee, PhD Student, Clemson University, Clemson, SC; and **Prasad R. Rangaraju**, Clemson University

Direct Tension Testing of Concrete Specimens **11:30 am**
Michelle L. Redmond, Graduate Student, South Dakota School of Mines and Technology, Rapid City, SD; **Brady N. Wiesner** and **M.R. Hansen**, South Dakota School of Mines and Technology

Shrinkage Cracking Behavior of Fiber Reinforced Concrete: As Assessed Using the Restrained Ring Test **11:45 am**
Kambiz Raoufi, PhD Candidate, Purdue University, West Lafayette, IN; **E. Stefan Bernard**, Technologies in Structural Engineering Pty., Ltd.; and **W. Jason Weiss**, Purdue University

Monday, October 25, 2010
9:00 am-12:00 pm

Sustainability of Concrete Pavement **C-304**
Sponsored by ACI Committees 130, Sustainability of Concrete; 325, Concrete Pavements; and 330, Concrete Parking Lots and Site Paving

Session Moderator: Timothy J. Smith
Director, Transportation & Public Works
Cement Association of Canada
Ottawa, ON, Canada

This session provides a general overview of the cement and concrete industry initiatives in climate change mitigation and adaptation along with a review of National Concrete Pavement Technology Center concrete pavement roadmap work on sustainability. Presentations will be given on topics such as blended cements, recycled aggregate, internal curing, and green streets. This session will aim to show the many sustainable benefits of using concrete pavement and climate change initiatives of the cement and concrete industry to decrease our carbon and energy footprints.

ACI is a U.S. Green Building Council (USGBC) Education Provider and is committed to enhancing the ongoing professional development of the building industry and LEED Professional through high-quality education programs. As a USGBC Education Provider, ACI has agreed to abide by USGBC-established operational and educational criteria, and is subject to annual reviews and audits for quality assurance.

USGBC has approved this session for 3 GBCI CE hours toward the LEED Credentialing Maintenance Program. **To receive credit, you MUST see the session monitor at the back of the room to sign in and out**.

The American Institute of Architects (AIA) has approved this session for 3 Learning Units. ACI is an AIA/CES Registered Provider.

Attention Architectural License Holders!
If you have an architectural license and would like Continuing Education Credit through AIA, please see the session monitor at the back of the room to obtain a copy of Form C. Return completed forms to ACI Registration.

Cement and Concrete Industry Initiative in Climate Change Mitigation and Adaptation **9:00 am**
Timothy J. Smith, Director, Transportation & Public Works, Cement Association of Canada, Ottawa, ON, Canada

Monday, October 25, 2010
9:00 am-12:00 pm

Sustainability of Concrete Pavement (cont.) **C-304**

Advancing Sustainable Concrete Pavements through the Concrete Pavement Roadmap **9:20 am**
Thomas J. Van Dam, Program Director, Applied Pavements Technology, Inc., Hancock, MI; and **Peter C. Taylor**, National Concrete Pavement Technology Center

Sustainability Opportunities with Pavements: Are We Focusing on the Right Stuff? **9:40 am**
Leif Wathne, Vice President of Highways and Federal Affairs, American Concrete Pavement Association, Washington, DC

Concrete's Contribution to the Greenroads Rating System **10:00 am**
Lionel Lemay, Senior Vice President of Sustainable Development, National Ready Mixed Concrete Association, Libertyville, IL

Green Streets **10:20 am**
John Kevern, Assistant Professor, University of Missouri-Kansas City, Kansas City, KS

Blended Cements: Achieving Sustainability and Durability in Concrete Pavements **10:40 am**
Julie K. Buffenbarger, Engineering & Architectural Specialist, Lafarge North America, Medina, OH; and **Matthew Miltenberger**, Tourney Consulting Group

Recycled Concrete Aggregate for Airfield Pavements **11:00 am**
Andres Salas, Postdoctoral Researcher, University of Illinois, Urbana, IL; and **Jeffery R. Roesler**, University of Illinois

100-Year Concrete Pavement Service Life Using Internal Curing **11:20 am**
John Ries, President, Expanded Shale, Clay, and Slate Institute, Salt Lake City, UT

= AIA/USGBC approved session

Monday, October 25, 2010
9:00 am-3:00 pm

Exhibitor Demonstrations **C-EAST ATRIUM**

Exhibitors will demonstrate the capabilities of their company on Monday and Tuesday, October 25 and 26 from 9:00 am to 3:00 pm. Presentations 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 both interesting and educational. Learn more about the products and services offered by the following companies.

Monday Exhibitor Demonstrations Schedule		
Time	**Exhibitor**	**Presentation/Demo Title**
9:00 am	Digital Site System, Inc.	How to Save Ready Mix Producers $1 to $3 Per Yard
9:45 am	Germann Instruments, Inc.	Pull-Out Testing for Compressive Strength of In-Place Concrete
10:30 am	Ytterberg Scientific, Inc.	Introduction to the FloorPro Floor Flatness Test Instrument and Accompanying TruFlat Software
12:00 pm	Calmetrix	A two-part presentation on Calorimetry for QL and Mix Design Optimization, and In-Boiler Fly Ash Beneficiation—A High-Strength SCM
12:45 pm	Proceq USA Inc.	Introducing the New Pundit Lab Ultrasonic Pulse Velocity (UPV) Instrument
1:30 pm	Elemix Additive and Syntheon Inc.	Assessment of Lightweight Synthetic Particles for Code Compliance

For a complete listing of each demonstrations, refer to the signs located in front of the Demonstration Area located in C-EAST ATRIUM.

Monday, October 25, 2010
12:00 pm-2:00 pm

✓**Student Lunch** **C-PITTSBURGH BALLROOM B & C**
$35 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 Pittsburgh Area Chapter and ACI Committee S801, Student Activities

Speakers:

Chris Hendrickson
Duquesne Light Company
Professor of Engineering
Carnegie Mellon University
Pittsburgh, PA

Melissa Bilec
Assistant Professor
University of Pittsburgh
Pittsburgh, PA

Mark Snyder
President
International Society for Concrete Pavements
Vice President, ACPA Pennsylvania Chapter
Pittsburgh, PA

Topic: Sustainability: Systems, Buildings, and Materials

Three leading experts in the area of sustainability will provide insight and perspective on how sustainability can be better incorporated into design decisions made by civil engineers. This informative lunch will help you to understand how sustainability is becoming a widely spread social objective, the intent of green building rating systems, and why concrete is the sustainable material of choice for many construction applications.

Monday, October 25, 2010
12:00 pm-2:00 pm

✓**Student Lunch (cont.)** **C-PITTSBURGH BALLROOM B & C**

Dr. Chris Hendrickson of the Duquesne Light Company and Professor of Engineering at Carnegie Mellon University, will elaborate on how sustainability is becoming a widely spread social objective. He will introduce some concepts of sustainability and illustrate good practices for green design and sustainable engineering.

Dr. Melissa Bilec, Assistant Professor at the University of Pittsburgh, will provide a broad overview of green buildings in the context of green building rating systems. She will focus on materials and resources and their relationship to energy performance of the built environment. An exercise in life-cycle thinking and green labeling systems will be conducted.

Finally, Dr. Mark Snyder, President of the International Society for Concrete Pavements, will discuss the many material choices that engineers have in infrastructure design and construction. Snyder will describe why concrete is the sustainable material of choice for many applications, and includes discussion of manufacture, carbon recapture, recycling, and other sustainable aspects of concrete construction.

Also, awards from the Student Egg Protection Device Competition will 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 25, 2010
2:00 pm-5:00 pm

Analysis, Design, and Construction Practices in Environmental Engineering Concrete Structures: An Overview of the ACI 350 Code and Commentary **C-304**
Sponsored by ACI Committee 350, Environmental Engineering Concrete Structures

Session Co-Moderators: M. Reza Kianoush
Professor
Ryerson University
Toronto, ON, Canada

Charles S. Hanskat
Managing Principal
Concrete Engineering Group
Northbrook, IL

This session will cover the structural analysis and design, material selection, and construction of environmental engineering concrete (EEC) structures. These structures are subjected to uniquely different loadings, severe exposure conditions, and restrictive serviceability requirements in contrast to non-environmental building structures. Detailed design examples will be presented to illustrate the application of ACI 350 Code for the design of EEC structures. Some of the most recent findings on the behavior of liquid-containing structures will also be discussed.

Introduction **2:00 pm**
M. Reza Kianoush, Professor, Ryerson University, Toronto, ON, Canada

Durability **2:05 pm**
Charles S. Hanskat, Managing Principal, Concrete Engineering Group, Northbrook, IL

Joints **2:30 pm**
Carl A. Gentry, Chief Structural Engineer, Carollo Engineering, Concord, CA

Serviceability **2:55 pm**
M. Reza Kianoush, Professor, Ryerson University, Toronto, ON, Canada

Monday, October 25, 2010
2:00 pm-5:00 pm

Analysis, Design, and Construction Practices in Environmental Engineering Concrete (cont.) **C-304**

Structural Design **3:20 pm**
Javeed A. Munshi, Senior Structural Engineer, Bechtel Power, Frederick, MD

Prestressed Concrete **3:45 pm**
Ramon E. Lucero, Vice President of Engineering Operations, DYK Incorporated, El Cajon, CA

Design Considerations for Rectangular and Circular Tanks **4:10 pm**
Satish K. Sachdev, Consultant, Klein and Hoffman Inc., Chicago, IL

Future Code Changes and Specifications **4:35 pm**
William C. Sherman, Senior Structural Engineer, CH2M Hill, Denver, CO

Monday, October 25, 2010
2:00 pm-5:00 pm

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 3 **C-302**
Sponsored by ACI Committees 370, Short Duration Dynamic and Vibratory Load Effects, and Joint ACI-ASCE Committee 447, Finite Element Analysis of Reinforced Concrete Structures

Session Co-Moderators: Ganesh Thiagarajan
Associate Professor of Civil Engineering
University of Missouri-Kansas City
Kansas City, MO

Eric Williamson
Associate Professor
University of Texas
Austin, TX

Christopher Conley
Associate Professor
United States Military Academy
West Point, NY

This three-part session will present papers on the behavior of concrete structures subjected to blast and impact. The objective of these sessions is to focus on new developments in the following areas: experimental investigations in the behavior of concrete/masonry structures subjected to extreme loading (blast and impact), advanced constitutive models for concrete subjected to extreme loading and high strain rates, application of simplified SDOF/MDOF methods in practical applications, numerical models comparing computed results with experimental data, and practice-oriented applications of extreme loading on concrete structures and experience of GSA and UFC specifications.

Blast Analysis of Precast Concrete Double-Tee Girders **2:00 pm**
Liling Cao, Senior Engineer, Thornton Tomasetti, New York, NY; and **Christopher Pinto**, Thornton Tomasetti

Benchmarking Finite Element Simulation of Hard Missile Impacts on Reinforced Concrete Slabs **2:30 pm**
Jose Pires, Senior Structural Engineer, United States Nuclear Regulatory Commission, Rockville, MD; and **Syed A. Ali**, United States Nuclear Regulatory Commission

Monday, October 25, 2010
2:00 pm-5:00 pm

Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 3 **C-302**

Behavior and Modeling of Shear-Critical RC Beams under Impact Loading **3:00 pm**
Selcuk Saatci, Assistant Professor, Izmir Institute of Technology, Izmir, Turkey; and **Frank J. Vecchio**, University of Toronto

Validation of SDOF Model by Experiments of RC Slab Subject to Gas Explosion Loadings **3:30 pm**
Takefumi Someya, Technology Research Institute, Tokyo Gas Co., Ltd., Yokohama City, Kanagawa, Japan; and **Hibiki Ryuzaki**, Tokyo Gas Co., Ltd.

Constitutive Concrete Material Model Comparison to Tested Reinforced Slabs Subjected to Blast Loads **4:00 pm**
James W. Wesevich, Manager of Protective Structures, Baker Engineering and Risk Consultants, San Antonio, TX; and **David D. Bogosian**, Baker Engineering and Risk Consultants

Summary of the New Reinforced Concrete Blast Design Provisions in UFC 3-420-02 **4:30 pm**
William H. Zehrt, Safety Engineer, United States Department of Defense Explosives Safety Board, Alexandria, VA; and **Patrick F. Acosta**, United States Army Corps of Engineers

Monday, October 25, 2010
2:00 pm-5:00 pm

Diagnosis and Repair of Structures Suffering from Durability Problems **C-305**
Sponsored by ACI Committee 201, Durability of Concrete

Session Co-Moderators: Ramon L. Carrasquillo
President
Carrasquillo Associates, LLC
Austin, TX

David A. Rothstein
President
DRP Consulting, Inc.
Boulder, CO

This session will emphasize case studies of diagnosing and repairing structures where damage from durability-related issues such as chemical attack, sulfate attack, physical salt attack, alkali silica reaction, and corrosion is a concern. It will focus on how to deal with durability problems to extend the service life of concrete structures, and will show that the rehabilitation of structures with durability problems is an essential component in the sustainability of our infrastructure.

Importance of Understanding Damage Mechanisms in Developing Repair Strategies **2:00 pm**
Ramon L. Carrasquillo, President, Carrasquillo Associates LLC, Austin, TX; and **David A. Rothstein**, DRP Consulting, Inc.

Diagnosis, Prognosis, and Rehabilitation of ASR-Affected Concrete Structures **2:30 pm**
Kevin J. Folliard, Professor, University of Texas, Austin, TX; **Benoit Fournier**, Université Laval; and **Michael Thomas**, University of New Brunswick

Assessment and Rehabilitation of ASR-Affected Bridge Abutments **3:00 pm**
Matthew R. Sherman, Associate Principal, Simpson Gumpertz & Heger, Inc., Waltham, MA; and **Cruz Carlos**, Simpson Gumpertz & Heger, Inc.

Monday, October 25, 2010
2:00 pm-5:00 pm

Diagnosis and Repair of Structures Suffering from Durability Problems (cont.) **C-305**

Use of NDT to Assess Durability Problems in the Field (as Opposed to the Lab) **3:30 pm**
Keith E. Kesner, Project Director, WDP & Associates, P.C., South Norwalk, CT; and **Randall W. Poston**, WDP & Associates, P.C.

Rehabilitation of Naval Waterfront Structures Using Service Life Modeling **4:00 pm**
Paul G. Tourney, Vice President, Tourney Consulting Group, LLC, Kalamazoo, MI; and **Elisabeth Reid**, SIMCO Technologies, Inc.

Evaluation and Remediation Measures of DEF in Precast Concrete Facade Panels **4:30 pm**
Derek Cong, Associate Principal, Wiss, Janney, Elstner Associates, Inc., Austin, TX; and **Lee Lawrence,** Wiss, Janney, Elstner Associates, Inc.

Monday, October 25, 2010
2:00 pm-5:00 pm

High-Performance Concrete for Seismic Design of Bridges **C-301**
Sponsored by ACI Committee 341, Earthquake-Resistant Concrete Bridges

Session Moderator: Riyadh Hindi
Associate Professor
St. Louis University
St. Louis, MO

This session is intended to present the state-of-the-art research activities and case studies on the use of high-performance concrete for seismic design of concrete bridges. High-performance concrete offers the potential of enhancing the design of bridge structural elements under seismic loads. This session will focus on the most recent developments and advancements in seismic design and experimental behavior of bridges using high-performance concrete. The session will cover case studies and research, including theoretical and experimental investigations, for seismic design and behavior of bridges using high-performance concrete. This session will be useful for researchers, students, and practitioners, including designers and contractors.

Shear Performance of High-Strength Concrete Hollow-Square Bridge Piers under Simulated Multi-Directional Loading **2:00 pm**
Rigoberto Burgueno, Associate Professor, Michigan State University, East Lansing, MI; **Eric Hines**, Tufts University; and **Xuejian Liu**, Michigan State University

Use of High-Performance Concrete in the Seismic Design of the New Pearl Harbor Memorial Bridge **2:30 pm**
Robert B. Anderson, Senior Bridge Engineer, URS Corporation, Tampa, FL; and **Richard Beaupre**, URS Corporation

Cyclic Behavior of Reinforced Concrete Columns Retrofitted with Shape Memory Alloy Spirals **3:00 pm**
Bassem Andrawes, Assistant Professor, University of Illinois at Urbana-Champaign, Urbana, IL; and **Moochul Shin**, University of Illinois at Urbana-Champaign

Monday, October 25, 2010
2:00 pm-5:00 pm

High-Performance Concrete for Seismic Design of Bridges C-301

Seismic Response of Bridge Columns with Engineered Cementitious Composites 3:30 pm
M. Saiid Saiidi, Professor, University of Nevada, Reno, NV; and **Sarira Motaref** and **Carlos Cruz**, University of Nevada

An Investigation on the Use of UHPC Columns in Seismic Bridge Design 4:00 pm
Sri Sritharan, Wilson Engineering Associate Professor, Iowa State University, Ames, IA; and **Rakesh S. Murthy**, Iowa State University

Axial Behavior of HSC Columns Confined with Multi Spirals 4:30 pm
Riyadh Hindi, Associate Professor, St. Louis University, St. Louis, MO; and **Lonnie Marvel**, Midwest Engineering Associates Inc.

Monday, October 25, 2010
2:00 pm-5:00 pm

Hybrid Systems for Sustainable Construction, Part 2 **C-303**
Sponsored by ACI Committees 335, Composite and Hybrid Structures, and 440, Fiber Reinforced Polymer Reinforcement

Session Co-Moderators: Amir Z. Fam
Professor and Canada Research Chair
Queen's University
Kingston, ON, Canada

Kent A. Harries
Associate Professor
University of Pittsburgh
Pittsburgh, PA

Composite and hybrid construction offers several advantages over conventional construction, including optimal usage of the combined material systems. This session covers selected recent developments and research activities on hybrid construction and demonstrates key advantages.

Concrete Bridge Decks Cast In-Situ into FRP Structural Sections **2:00 pm**
Mark S. Nelson, Student, Queen's University, Kingston, ON, Canada; and **Amir Z. Fam**, Queen's University

Seismic Behavior of Self-Centering Frame **2:25 pm**
Mohamed Elgawady, Assistant Professor, Washington State University, Pullman, WA

Hybrid Construction with FRP and Engineered Cementitious Composites **2:50 pm**
Amir Mirmiran, Professor and Chair, Florida International University, Miami, FL; and **Pedram Zohrevand** and **Muhammad A. Saleem**, Florida International University

Hybrid FRP/Concrete Bridge—Design and Nondestructive Evaluation **3:15 pm**
Guillermo Ramirez, Assistant Professor, University of Texas Arlington, Arlington, TX; **Paul H. Ziehl**, University of South Carolina; and **T. Fowler**, University of Texas Arlington

Monday, October 25, 2010
2:00 pm-5:00 pm

Hybrid Systems for Sustainable Construction, Part 2 (cont.) **C-303**

Flexural Strength of Reinforced Concrete Beams Strengthened Using Carbon Fiber-Reinforced Composites—Size Effects **3:40 pm**
Stuart S. J. Moy, Professor, University of Southampton, Southampton, UK; and **Stephen K. L. Lee**, Hong Kong University of Science and Technology

Experimental Assessment of Bonded FRP-to-Steel Interfaces **4:05 pm**
Kent A. Harries, Associate Professor, University of Pittsburgh, Pittsburgh, PA; and **Michael J. Richard**, University of Pittsburgh

Development of Carbon-Nanofiber Concrete **4:30 pm**
Yi-Lung Mo, Professor, University of Houston, Houston, TX; **Di Gao**, Central South University; and **Mariel Sturm** and **W. Zheng**, Jackson State University

Monday, October 25, 2010
5:00 pm-6:00 pm

Women in ACI Reception **W-CRAWFORD**

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 25, 2010
6:00 pm-9:30 pm

✓Dinner/Dance Cruise **DEPART SIXTH STREET DOCK**
$75 U.S. Per person
6:00 pm - Boarding
6:30 pm-9:00 pm Cruise
Cruise Pittsburgh's three rivers with friends, colleagues, and other convention attendees on the Gateway Clipper Fleet's "Empress" for an evening of great food, music, and dancing. The Empress will depart from the Sixth Street Dock, approximately four blocks from the Westin. Comfortable walking shoes are recommended.

Walking Instructions: Guides will be placed along the route to point you in the right direction. Estimated walking time is 10 minutes.

1. Exit the Westin and proceed down Tenth Street (go under Convention Center)
2. Turn left on Fort Duquesne Blvd.
3. Travel 3 blocks to Seventh Street.
4. Cross Fort Duquesne Blvd. at Seventh Street.
5. Walk down ramp to boat dock.

Shuttle Instructions: For those who are unable to walk, transportation will be provided beginning at 5:45 pm.

1. Exit Westin and proceed down Tenth Street (go under Convention Center)
2. Board shuttle bus
3. Exit shuttle at Seventh Street
4. Walk down ramp to boat dock.

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

✓= separate fee required

Tuesday, October 26, 2010
9:00 am-12:00 pm

Contractors' Day Session and Tour: David L. Lawrence Convention Center, the First Green Convention Facility **C-301**
Sponsored by the ACI Pittsburgh Area Chapter

Session Moderator: James Rader
Treasurer
J.J. Kennedy Inc.
Zelienople, PA

Join Mark J. Leahy, General Manager at the David L. Lawrence Convention Center, for an informative session and tour that explains the construction and maintenance of the world's first and largest "green" convention center. The center was awarded the LEED Gold by the U.S. Green Building Council.

Convention Center Green Building Components **9:00 am**
Mark J. Leahy, General Manager, and **Bernie Watson**, Director of Operations, David L. Lawrence Convention Center, Pittsburgh PA

Walking Tour of the Convention Center **10:30 am**
Mark J. Leahy, General Manager, and **Bernie Watson**, David L. Lawrence Convention Center

Please pre-register (no charge) for this session so that enough tour guides may be provided.

Tuesday, October 26, 2010
9:00 am-12:00 pm

Mineral Fillers: Role in Self-Consolidating Concrete **C-305**
Sponsored by ACI Committee 237, Self-Consolidating Concrete

Session Moderator: Caroline Talbot
Regional Sales Manager
Omya Inc.
Cincinnati, OH

This session will discuss the various benefits and uses of mineral fillers in self-consolidating concrete (SCC). Mixture performance, fresh properties, cost reduction, and sustainability in both the U.S. and Europe will be covered.

Performance of SCC Made with Limestone Fillers for Precast and Cast-in Place Applications **9:00 am**
Kamal Khayat, Research Chair Professor, University of Sherbrooke, Sherbrooke, QC, Canada; and **Olivier Bonneau** and **Fardinand Tchieme**, University of Sherbrooke

The Role of Filler Materials in the Swedish Development of SCC **9:30 am**
Peter H. Billberg, Senior Researcher, CBI Betonginstitutet AB, Stockholm, Sweden

Practical Experiences with "Betoflow D" as an Ultrafine Addition on Calcium Carbonate-Basis in the European Precast Industry **10:00 am**
Hans-Werner Roeth, Marketing Manager of Construction, Omya Inc., Oftringen, Switzerland

Dust of Fracture, Aggregates Microfines of SCC **10:30 am**
Eric P. Koehler, Research Engineer, Grace Performance Chemicals, Cambridge, MA

Sustainability Aspects of Self-Consolidating Concrete Using Mineral Fillers **11:00 pm**
Mark Bury, Senior Product Manager, BASF Admixtures Inc., Beachwood, OH

Milled Limestone Physical Properties for Compatibility with SCC **11:30 pm**
Olivier Bughin, Research and Development Engineer, Carmeuse Lime and Stone, Louvain la Neuve, Belgium

Tuesday, October 26, 2010
9:00 am-12:00 pm

Seismic Performance of Concrete Joints and Connections **C-304**
Sponsored by ACI Committee 374, Performance-Based Seismic Design Concrete Buildings, and Joint ACI-ASCE Committee 352, Joints and Connections in Monolithic Concrete Structures

Session Co-Moderators: Ian N. Robertson
Professor
University of Hawaii at Manoa
Honolulu, HI

Sergio M. Alcocer
Director
National University of Mexico
Mexico City, Mexico

This session features recent research related to the seismic performance of beam-to-column, slab-to-column, and wall-to-foundation joints and connections. The presentations highlight experimental research focused on determining the lateral response of connections using various materials, reinforcement types, and construction practices, along with studies that have developed recommendations for performance-based seismic design of joints and connections. Engineers and researchers interested in earthquake-resistant design of concrete structures should attend this session.

Base Panels to Foundation Joint Response of Hybrid Precast Walls: Full Field Measurements and FEM Simulations **9:00 am**
Brian J. Smith, Graduate Student, University of Notre Dame, Notre Dame, IN; **Michael J. McGinnis**, University of Texas; and **Yayha Kurama**, University of Notre Dame

Behavior of Slab-Column Connections Under Biaxial Lateral Displacements: Shear Stud Versus Fiber Reinforcement **9:20 am**
Gustavo J. Parra-Montesinos, Associate Professor, University of Michigan, Ann Arbor, MI; **Carol K. Shield**, University of Minnesota; and **Yuan Cheng**, CKC & Company

Capacity of Deficient RC Interior Beam-Column Joints **9:40 am**
Chris P. Pantelides, Professor, University of Utah, Salt Lake City, UT; **Yasuteru Okahashi**, CoreBrace; and **Lawrence D. Reaveley**, University of Utah

Tuesday, October 26, 2010
9:00 am-12:00 pm

Seismic Performance of Concrete Joints and Connections (cont.) **C-304**

Seismic Design of Reinforced Concrete Beam-Column Knee Joints with Headed Bars **10:00 am**
Thomas Kang, Assistant Professor, University of Oklahoma, Norman, OK; and **Myoungsu Shin**, Rosenwasser/Grossman Consulting Engineers, P.C.

Comprehensive Series of Tests on Seismic Performance of Reinforced Concrete Interior Beam-Column Joints **10:20 am**
Hitoshi Shiohara, Associate Professor, University of Tokyo, Bunkyo-ku, Tokyo

Joint Shear Behavior Prediction Models of Reinforced Concrete Beam-Column Connections for Seismic Assessment and Design **10:40 am**
James M. LaFave, Associate Professor, University of Illinois at Urbana Champaign, Urbana, IL; and **Jaehong Kim**, S.K. Ghosh Associates, Inc.

Seismic Performance of Beam-Column Joints Using High-Strength Reinforcement and Mechanical Anchorage **11:00 am**
Hung-Jen Lee, Associate Professor, National Yunlin University of Science and Technology, Douliou, Yunlin, Taiwan; **Shyh-Jiann Hwang**, National Taiwan University; and **Ker-Chun Lin**, National Center for Research on Earthquake Engineering

Reinforced Concrete Beam-Column Joints: Seismic Design Based on an Overlooked Failure Mechanism **11:20 am**
Hitoshi Shiohara, Associate Professor, University of Tokyo, Bunkyo-ku, Tokyo

Tuesday, October 26, 2010
9:00 am-12:00 pm

Sustainable Design with Concrete, Part 1 **C-303**
Sponsored by ACI Committees 124, Concrete Aesthetics; 130, Sustainability of Concrete; and 533, Precast Panels

Session Moderator: Brian Miller
Managing Director of Business Development
Precast/Prestressed Concrete Institute
Chicago, IL

Material selection for a structure plays a key role in determining how sustainable a given structure will be. Today's world of sustainable design requires materials and methods that are durable, energy efficient, and low maintenance. This session will highlight projects and applications of concrete that contribute to meeting sustainable goals. More specifically, this session will address applications and standards related to sustainability using concrete.

Session attendees will receive information on how concrete materials, practices, and specifications fit into sustainable design. Attendees will also learn how to apply proven tactics for leveraging concrete's inherent strength, versatility, and other attributes to contribute to sustainable projects.

ACI is a U.S. Green Building Council (USGBC) Education Provider and is committed to enhancing the ongoing professional development of the building industry and LEED Professional through high-quality education programs. As a USGBC Education Provider, ACI has agreed to abide by USGBC-established operational and educational criteria, and is subject to annual reviews and audits for quality assurance.

GBCI CMP

USGBC has approved this session for 3 GBCI CE hours toward the LEED Credentialing Maintenance Program. **To receive credit, you MUST see the session monitor at the back of the room to sign in and out.**

The American Institute of Architects (AIA) has approved this session for 3 Learning Units. ACI is an AIA/CES Registered Provider.

Attention Architectural License Holders!
If you have an architectural license and would like Continuing Education Credit through AIA, please see the session monitor at the back of the room to obtain a copy of Form C. Return completed forms to ACI Registration.

Tuesday, October 26, 2010
9:00 am-12:00 pm

Sustainable Design with Concrete, Part 1 (cont.) **C-303**

A National Green Building Standard (ICC 700) Overview **9:00 am**
Michael H. Weber, Executive Vice President, Building Works, Inc, Lewisburg, PA

Less is More with Preframed Precast Wall Panels **9:30 am**
Rick Beck, National Sales Manager, Easi-Set Industries, Midland, VA

Carbon Footprint of the U.S. Cement and Concrete Industries and Methods for Mitigation **10:00 am**
Julie Rapoport, Director of Product Development, CalStar Cement Products, Newark, CA

Green Concrete for the Triple Bottom Line **10:30 am**
Larry Rowland, Manager of Marketing and Technical Services, Lehigh Cement Company, Allentown, PA

Recovered Mineral Components in Sustainable Concrete Design **11:00 am**
Eckart Buhler, Manager of Engineering Services, Norchem, Inc., Ft. Pierce, FL

Concrete's Contribution to LEED for Homes **11:30 am**
Lionel Lemay, Senior Vice President of Sustainable Development, National Ready Mixed Concrete Association, Libertyville, IL

= AIA/USGBC approved session

Tuesday, October 26, 2010
9:00 am-12:00 pm

Technical Session in Honor of Dov Kaminetzky, Part 1 **C-302**
Sponsored by ACI Committees 347, Formwork for Concrete; 350, Environmental Engineering Concrete Structuresl; 364, Rehabilitation; and 437, Strength Evaluation of Existing Concrete Structures

Session Co-Moderators: Gajanan M. Sabnis
Chief Executive Officer, 21SHM Consultants, Mumbai, India; also Member, Governing Council, ICI, Chennai, India

Perciles C. Stivaros
Principal
Feld, Kaminetzky & Cohen, P.C.
Jericho, NY

This symposium is a tribute to the late Dov Kaminetzky, who devoted his career and life for the betterment of concrete—starting from concept to execution—and to make quality concrete. These sessions will include presentations and highlight Dov Kaminetzky's many technical contributions to ACI and the concrete industry in general. Presentations that focus on Kaminetzky's contributions in the field of structural failure investigations and their educational importance will include an overview of construction failure case studies with lessons learned or sometimes not learned. Several presentations will highlight his contributions to structural testing, evaluation and repair of concrete structures in general, and environmental structures in particular. Additional presentations will cover Kaminetzky's contributions in the formwork design and construction practices.

The two-part session will be of interest to design engineers, contractors, formwork engineers and manufacturers, and others interested in concrete construction practices. The attendees will have the opportunity to learn from design and construction failures; learn about testing, evaluation, and repair of distressed structures; and learn about various aspects of formwork design and construction.

Introduction: Dedication to Dov Kaminetzky as an Engineer **9:00 am**
Gajanan M. Sabnis, Chief Executive Officer, 21SHM Consultants, Mumbai, India

Tuesday, October 26, 2010
9:00 am-12:00 pm

Technical Session in Honor of Dov Kaminetzky, Part 1 (cont.) **C-302**

Concrete Mix Design: Key to Excellence in the Performance of New Concrete Structures and Rehabilitation **9:05 am**
Jose M. Izquierdo-Encarnacion, Principal, PORTICUS, San Juan, PR

Lessons Learned in Producing Quality Concrete at the Port Authority of New York **9:30 am**
Casimir Bognacki, Chief of Materials, Port Authority of New York & New Jersey, Jersey City, NJ

Replacement of a 14 MG Reinforced Concrete Water Storage Reservoir and Pumping Station under a Golf Course: Planning Design and Construction Changes **9:55 am**
Ashok K. Dhingra, Principal, AKD Consulting, Diamond Bar, CA

Seventy-Year History of Wire Wrapped Prestressed Concrete Tanks: Practice, Performance, & Professional Standards **10:20 am**
Daniel J. McCarthy, Senior Engineer, Preload Inc., Hauppauge, NY; and **Lars F. Balck**, Senior Vice President, The CROM Corporation, Gainesville, FL

Important Aspects of Formwork in Concrete Design **10:45 am**
Eric S. Peterson, Senior Superintendent, Webcor Builders, San Francisco, CA

Automated Analysis of Shoring and Reshoring Systems for Multistory Concrete Buildings Under Construction **11:10 am**
Michael P. McGurl, Graduate Research Assistant, North Carolina State University, Raleigh, NC; and **David W. Johnston**, North Carolina State University

Advancement of Structural Strengthening and Health Monitoring of Bridges in India **11:35 am**
Gopal L. Rai, CEO, R&M International Pvt. Ltd, Mumbai, India; and **Gajanan M. Sabnis**, 21SHM Consultants

Tuesday, October 26, 2010
9:00 am-3:00 pm

Exhibitor Demonstrations **C-EAST ATRIUM**

Exhibitors will demonstrate the capabilities of their company on Tuesday, October 26 from 9:00 am to 3:00 pm. Presentations 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 both interesting and educational. Learn more about the products and services offered by the following companies.

Tuesday Exhibitor Demonstrations Schedule		
Time	**Exhibitor**	**Presentation/Demo Title**
9:00 am	Germann Instruments, Inc.	Pavement and Bridge Testing with Impulse Response and Impact-Echo
10:30 am	RJ Lee Group, Inc.	Fly Ash: A Particle-by-Particle Analysis
12:00 pm	Calmetrix	A two-part presentation on Calorimetry for QL and Mix Design Optimization, and In-Boiler Fly Ash Beneficiation—A High-Strength SCM
12:45 pm	Olson Engineering, Inc.	Sonic, Radar, and Electrical Methods for Imaging Concrete and Rebar
1:30 pm	Materials Advanced Services Ltd.	The Importance of Checking the Permeability on site as a Means to Assess the "True" Durability Potential of a Concrete Element"
2:15 pm	Germann Instruments, Inc.	Testing for Chlorides in Concrete Structures

For a complete listing of each demonstrations, refer to the signs located in front of the Demonstration Area located in C-EAST ATRIUM.

Tuesday, October 26, 2010
12:00 pm-2:00 pm

✓**Contractors' Day Lunch** **W-WESTMORELAND**
$40 U.S. per person
Hosted by the ACI Pittsburgh Area Chapter and the Construction Liaison Committee

Speaker: Eric Hayes
Assistant Project Manager
Walsh Construction
Freedom, PA

Topic: Allegheny River Project

Join other ACI attendees and contractors for the Contractors' Day Lunch. Following lunch, Eric Hayes of Walsh Construction will give a special presentation on the variations in concrete and the construction of the Pennsylvania Turnpike Allegheny River Bridge.

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 26, 2010
2:00 pm-5:00 pm

Contractors' Day Session **C-301**
Sponsored by the ACI Pittsburgh Area Chapter

Session Moderator: Jeremy J. Swartzfager
Sales Representative
ICS Penetron International, LTD.
East Setauket, NY

This session will provide an understanding of green construction opportunities, myths of concrete, and information on Pennsylvania's contractor registration requirements for 2010.

I'm Bidding on a LEED Project...Now What? **2:00 pm**
Kenneth Crank, Director of Concrete Promotion, Pennsylvania Aggregates and Concrete Association, Harrisburg, PA

Engineering 101 for Non-Engineers **3:15 pm**
Ian Weinholt, Business Development Manager, Structural Preservation Systems, Elkridge, MD

Pennsylvania's Contractors' Registration Required in 2010 **4:30 pm**
Jesse Harvey, Senior Deputy Attorney General, Bureau of Consumer Protection, Pittsburgh, PA

Tuesday, October 26, 2010
2:00 pm-5:00 pm

High-Strength and Corrosion-Resistant Reinforcing Steel for Concrete Structures **C-304**
Sponsored by ACI Committee 439, Steel Reinforcement

Session Co-Moderators: Mark D. Marvin
President
The Marvin Group, Inc.
Fairacres, NM

Roy H. Reiterman
Principal
Roy H. Reiterman, P.E. & Associates
Troy, MI

This session will provide the latest developments and details for the use and application of high-strength and corrosion-resistant steel reinforcement. The purpose of this session is to update and educate owners, specifiers, and contractors on the advantages, application, and advancement of high-strength and corrosion-resistant reinforcing steel.

Design Guidelines for the Use of High-Strength Steel Bars for Structural Concrete **2:00 pm**
Johnny Kwok, Assistant Director of Engineering, MMFX Technologies Corporation, Irvine, CA

Cyclic Response of Concrete Members Reinforced with High-Strength Steel **2:30 pm**
Andres Lepage, Assistant Professor, Pennsylvania State University, University Park, PA; **Hooman Z. Tavallali**, Pennslyvania State Universtiy; and **Santiago Pujol** and **Jeffrey Rautenberg**, Purdue University

Galvanized Reinforcing **3:00 pm**
Carl D. Maki, Engineer, South Atlantic Galvanizing, Lexington, SC

Stainless Steel Specification for Corrosive Environments **3:30 pm**
Catherine Houska, Consultant, Technical Marketing Resources Consulting, Pittsburgh, PA; and **Poul-Eirk Arnvig**, Outokumpu Stainless

Tuesday, October 26, 2010
2:00 pm-5:00 pm

High-Strength and Corrosion-Resistant Reinforcing Steel for Concrete Structures (cont.) **C-304**

High-Strength Welded Wire Reinforcement in Concrete Structures **4:00 pm**
David H. DeValve, Engineer, Oklahoma Steel & Wire, Madill, OK

Marketing High-Strength Steel Reinforcement to Save a Project **4:30 pm**
Paul S. Fredrickson, Product Manager, CMC Americas, Grapevine, TX

Tuesday, October 26, 2010
2:00 pm-5:00 pm

Open Paper Session **C-305**
Sponsored by ACI Committee 123, Research and Current Developments

Session Moderator: Sulapha Peethamparan
Assistant Professor
Clarkson University
Potsdam, NY

The Open Paper Session is a forum for presenting recent technical information that could not be scheduled into other convention sessions.

Evaluating the Durability of Concrete Containing Lightweight Synthetic Particles **2:00 pm**
Michael Thomas, Professor, Department of Civil Engineering, University of New Brunswick, Fredericton, NB, Canada

Modeling Surface Deformations in Hinging Regions of Reinforced Concrete Bridge Columns **2:20 pm**
Zeynep Firat Alemdar, Graduate Student, University of Kansas, Lawrence, KS; and **Adolfo B. Matamoros** and **Joann Browning,** University of Kansas

ASTM C311 Strength Activity Index Evaluation Compared to a Constant Volumetric Approach **2:40 pm**
Dale P. Bentz, Chemical Engineer, National Institute of Standards and Technology, Gaithersburg, MD; and **Daniel Galvez-Moreno** and **Alejandro Durán-Herrera**, Autonomous University of Nuevo León

Performance Assessment of Shear-Critical Frame Elements under Dynamic Loading **3:00 pm**
Serhan Guner, Structural Engineer, Morrison Hershfield Limited, Toronto, ON, Canada; and **Frank J. Vecchio**, University of Toronto

A Performance Comparison: Lightweight Concrete made using Expanded Polystyrene from Ground Waste of Manufactured Spherical Bead **3:20 pm**
Matthew Trussoni, Assistant Professor, Milwaukee School of Engineering, Milwaukee, WI; and **Carol D. Hays** and **Ronald F. Zollo**, University of Miami

Tuesday, October 26, 2010
2:00 pm-5:00 pm

Open Paper Session (cont.) **C-305**

Long-Term Creep and Drying Shrinkage of HSC Containing SRA **3:40 pm**
Akthem Al-Mansaseer, Professor, San Jose State University, San Jose, CA; and **Ric Maggenti**, California Department of Transportation

Porosity and Packing Base Materials Design of Pervious Concretes for Desired Performance Levels **4:00 pm**
Omkar Deo, Graduate Student, Clarkson University, Postdam, NY; and **Milani S. Sumanasooriya** and **Narayanan Neithalath**, Clarkson University

Alkali-Silica Reactivity of Recycled Glass Aggregates and the Role of Residual Cracking on Glass Activity **4:20 pm**
Hamed Maraghechi, Graduate Student, Pennsylvania State University, University Park, PA; and **Afshin Shafaatian** and **Farshad Rajabipour**, Pennsylvania State University

Estimation of Formwork Lateral Pressure Exerted by Self-Consolidating Concrete **4:40 pm**
Jae H. Kim, Post Doctoral Fellow, Northwestern University – Center for Advanced Cement-Based Materials, Evanston, IL; **Seung Hee Kwon**, Myongji University; and **Surendra P. Shah**, Northwestern University

Tuesday, October 26, 2010
2:00 pm-5:00 pm

Sustainable Design with Concrete, Part 2 **C-303**
Sponsored by ACI Committees 124, Concrete Aesthetics; 130, Sustainability of Concrete; and 533, Precast Panels

Session Moderator: Larry Rowland
Manager of Marketing and Technical Services
Lehigh Cement Company
Allentown, PA

Material selection for a structure plays a key role in determining how sustainable a given structure will be. Today's world of sustainable design requires materials and methods that are durable, energy efficient, and low maintenance. This session will highlight projects and applications of concrete that contribute to meeting sustainable goals. More specifically, this session will address applications and standards related to sustainability using concrete.

Session attendees will receive information on how concrete materials, practices, and specifications fit into sustainable design. Attendees will also learn how to apply proven tactics for leveraging concrete's inherent strength, versatility, and other attributes to contribute to sustainable projects.

ACI is a U.S. Green Building Council (USGBC) Education Provider and is committed to enhancing the ongoing professional development of the building industry and LEED Professional through high-quality education programs. As a USGBC Education Provider, ACI has agreed to abide by USGBC-established operational and educational criteria, and is subject to annual reviews and audits for quality assurance.

GBCI CMP

USGBC has approved this session for 3 GBCI CE hours toward the LEED Credentialing Maintenance Program. **To receive credit, you MUST see the session monitor at the back of the room to sign in and out**.

The American Institute of Architects (AIA) has approved this session for 3 Learning Units. ACI is an AIA/CES Registered Provider.

Attention Architectural License Holders!
If you have an architectural license and would like Continuing Education Credit through AIA, please see the session monitor at the back of the room to obtain a copy of Form C. Return completed forms to ACI Registration.

Tuesday, October 26, 2010
2:00 pm-5:00 pm

Sustainable Design with Concrete, Part 2 (cont.) **C-303**

Practical Application of High-Volume Fly Ash Concrete **2:00 pm**
Jeffery S. Volz, Assistant Professor, Missouri University of Science and Technology, Rolla, MO

Design of Sustainable Pavements Using Concrete **2:30 pm**
Thomas Van Dam, Program Director, Applied Pavements Technology, Inc., Hancock, MI; and **Peter Taylor**, CPTech National Center

Sustainable Concrete Production – The Next Step Towards Industry Sustainability **3:00 pm**
Lionel Lemay, Senior Vice President of Sustainable Development, National Ready Mixed Concrete Association, Libertyville, IL

Use of Aggregates to Reduce Cement Content in Concrete **3:30 pm**
David Fowler, Professor and Chair of Engineering, University of Texas, Austin, TX

Increasing Sustainability of Concrete through Internal Curing **4:00 pm**
Ralph Acampora, Senior Sales Manager, Northeast Solite Corporation, Saugerties, NY

Precast Concrete and Sustainable Design **4:30 pm**
Brian Miller, Managing Director of Business Development, Precast/Prestressed Concrete Institute, Chicago, IL

= AIA/USGBC approved session

Tuesday, October 26, 2010
2:00 pm-5:00 pm

Technical Session in Honor of Dov Kaminetzky, Part 2 **C-302**
Sponsored by ACI Committees 347, Formwork for Concrete; 350, Environmental Engineering Concrete Structures; 364, Rehabilitation; and 437, Strength Evaluation of Existing Concrete Structures

Session Co-Moderators: Gajanan M. Sabnis
Chief Executive Officer, 21SHM Consultants, Mumbai, India; also Member, Governing Council, ICI, Chennai, India

Perciles C. Stivaros
Principal
Feld, Kaminetzky & Cohen, P.C.
Jericho, NY

This symposium is a tribute to the late Dov Kaminetzky, who devoted his career and life for the betterment of concrete—starting from concept to execution—and to make quality concrete. These sessions will include presentations and highlight Dov Kaminetzky's many technical contributions to ACI and the concrete industry in general. Presentations that focus on Kaminetzky's contributions in the field of structural failure investigations and their educational importance will include an overview of construction failure case studies with lessons learned or sometimes not learned. Several presentations will highlight his contributions to structural testing, evaluation and repair of concrete structures in general, and environmental structures in particular. Additional presentations will cover Kaminetzky's contributions in the formwork design and construction practices.

The two-part session will be of interest to design engineers, contractors, formwork engineers and manufacturers, and others interested in concrete construction practices. The attendees will have the opportunity to learn from design and construction failures; learn about testing, evaluation, and repair of distressed structures; and to learn about various aspects of formwork design and construction.

Dov Kaminetzky's Perspective of Construction Failures as an Educational Tool **2:00 pm**
Pericles C. Stivaros, Principal, Feld, Kaminetzky, & Cohen, P.C., Jericho, NY

Tuesday, October 26, 2010
2:00 pm-5:00 pm

Technical Session in Honor of Dov Kaminetzky, Part 2 (cont.) C-302

Diagnostic Testing as a Tool in Concrete Failure Investigation **2:25 am**
Boris Dragunsky, President, Universal Construction Testing, Wheeling, IL

Investigation and Dispute Resolution—A Case Study **2:50 pm**
Avanti C. Shroff, Vice President, Jacobs Edwards and Kelcey, New York, NY; and **Chih-Ping Fan**, AWCOM

Paradigm Shift Needed in the Repair Materials Data Sheets and Engineering Specifications **3:15 pm**
Fred Goodwin, BASF Construction Chemicals LLC; **Alexander Vaysburd**, Vaycon Consultants, Baltimore, MD; **Benoit Bissonnette**, Laval University; and **Christopher Brown**, Conproco Corp., Dover, NH

Sustainability in Underwater Concreting – Use of Zero Washout Admixture for Large Underwater Concreting Project in India **3:40 pm**
Surendra K. Manjrekar, Chairman and Managing Director, Sunanda Speciality Coatings Pvt Ltd., Mumbai, India; and **Ishita Manjrekar,** Sunanda Speciality Coatings Pvt Ltd.

Locating Steel Reinforcement in Concrete **4:05 pm**
Luke M. Snell, Eminent Scholar, Del E. Web School of Construction, Arizona State University, Tempe, AZ

Construction Failures: Have We Learned our Lessons? **4:30 pm**
Nicholas Carino, Concrete Materials Consultant, Chagrin Falls, OH

Closing Remarks: What's Next? **4:55 pm**
Gajanan M. Sabnis, Chief Executive Officer, 21SHM Consultants, Mumbai, India

Tuesday, October 26, 2010
5:00 pm-6:00 pm

Faculty Network Reception **C-404**

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 26, 2010
6:30 pm-10:00 pm

Concrete Mixer **HEINZ HISTORY CENTER**
Sponsored by the ACI Pittsburgh Area Chapter

Have you ever wondered what Pittsburgh looked like 250 years ago? From the pre-revolutionary French and Indian War to the legendary expedition of Lewis and Clark, discover the history of Pittsburgh during the Concrete Mixer held at the Senator John Heinz History Center. In association with the Smithsonian Institute, the Heinz History Center has six floors and over 275,000 square feet of long-term and changing exhibition space that showcases some of the most compelling stories from American history. This adventure into the past is the perfect opportunity to relax, learn, and network as you enjoy delicious food and cocktails throughout the many floors of Pennsylvania's largest history museum. **Refer to your map prior to page 27 for the location of food stations and bars.** Additionally the gift shop will be open.

Note: The Heinz History Center is a three-block walk from the Westin Convention Center. Chapter members will be located along the route to direct you from the Westin. For those who cannot walk long distances, there will be shuttles available from the Omni and Westin.

Wednesday, October 27, 2010
9:00 am-12:00 pm

Corrosion-Resistant Reinforcement—Current Performance and Alternative Materials **C-302**
Sponsored by ACI Committee 222, Corrosion of Metals in Concrete

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

Paul G. Tourney
Vice President
Tourney Consulting Group
Kalamazoo, MI

This session provides papers that outline the performance of various types of reinforcing bars—including both novel and existing bars—under corrosive conditions. This session is aimed at educating others about the various types of reinforcing bars that are available or that have been proposed to reduce corrosion damage.

Chloride Threshold Determination Using Short- and Long-Term Test Methods and its Sensitivity on Probabilistic Service Life **9:00 am**
Radhakrishna G. Pillai, Professor, Indian Institute of Technology, Madras, India; and **David Trejo**, Oregon State University

Corrosion Behaviour of Four Stainless Steel Rebar Alloys **9:30 am**
Carolyn M. Hansson, Professor, University of Waterloo, Waterloo, ON, Canada

Nano-Scale Imaging Studies on the Passivity and Depassivation of Carbon Steel Reinforcing Bar in Concrete **10:00 am**
Pouria Ghods, Post Doctoral Fellow, Carleton University, Ottawa, ON, Canada; and **O. Burkan Isgor**, Carleton University

Corrosion Performance of a Reactive Enamel Coating for Reinforcing Steel **10:30 am**
Jeffery S. Volz, Assistant Professor, Missouri University of Science & Technology, Rolla, MO; and **Charles Werner**, Missouri University of Science & Technology

Wednesday, October 27, 2010
9:00 am-12:00 pm

Corrosion-Resistant Reinforcement—Current Performance and Alternative Materials (cont.) **C-302**

Effectiveness of Epoxy-Coated Reinforcing Steel after 35 Years **11:00 am**
David B. McDonald, Managing Director, Epoxy Interest Group of CRSI, Schaumburg, IL

A Novel Methodology for Damage Projection of Corrosion-Resistant and Black-Bar Reinforced Concrete Exposed to Chlorides **11:30 am**
William H. Hartt, Professor Emeritus, Florida Atlantic University, Dania Beach, FL

Wednesday, October 27, 2010
9:00 am-12:00 pm

Green Binders Technology **C-304**
Sponsored by ACI Committees 130, Sustainability of Concrete, and 236, Material Science of Concrete

Session Co-Moderators: Farshad Rajabipour
Assistant Professor
Pennsylvania State University
University Park, PA

Jan Olek
Professor
Purdue University
West Lafayette, IN

This session will explore the positive role concrete infrastructure can play in improved energy efficiency and reduced carbon emissions through the efficient use of green and cost-effective binder systems. Presentations topics include: high-volume (>40%) replacement of portland cement, including complex mixture designs; blended cements and the use of reduced-energy clinkers; design methodologies that optimize the use of greener binders, including alkali activation; and improved durability and service-life prediction of structures with green binders.

The sustainability of concrete construction is the key issue facing the cement and concrete industries. While there is good awareness of the problem, and a number of initiatives to make concrete greener are underway, there is still no consensus on the best approach to improve the material's sustainability. This session will provide the audience with several presentations on the current state of research on the use of novel green concrete technologies and will be of value to practicing engineers, material suppliers, and public agencies.

See next page for presentation listing

Wednesday, October 27, 2010
9:00 am-12:00 pm

Green Binders Technology (cont.) **C-304**

ACI is a U.S. Green Building Council (USGBC) Education Provider and is committed to enhancing the ongoing professional development of the building industry and LEED Professional through high-quality education programs. As a USGBC Education Provider, ACI has agreed to abide by USGBC-established operational and educational criteria, and is subject to annual reviews and audits for quality assurance.

USGBC has approved this session for 3 GBCI CE hours toward the LEED Credentialing Maintenance Program. **To receive credit, you MUST see the session monitor at the back of the room to sign in and out.**

The American Institute of Architects (AIA) has approved this session for 3 Learning Units. ACI is an AIA/CES Registered Provider.

Attention Architectural License Holders!
If you have an architectural license and would like Continuing Education Credit through AIA, please see the session monitor at the back of the room to obtain a copy of Form C. Return completed forms to ACI Registration.

Performance of Portland-Limestone Cements in Concrete in Combination with Supplementary Cementing Materials **9:00 am**
R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada; and **Amir Ramezanianpour**, University of Toronto

Alkali Silicate Activated Slag and Slag-Glass Powder Binders: Microstructure and Properties **9:20 am**
Narayanan Neithalath, Associate Professor, Clarkson University, Potsdam, NY; and **Deepak Ravikumar**, Clarkson University

Assessment of High-Volume Fly Ash Concrete for Use in Sustainable Construction **9:40 am**
Jeffery S. Volz, Assistant Professor, Missouri University Science & Technology, Rolla, MO; and **Carlos Ortega Ordonez**, Missouri University of Science & Technology

Research to Extend Internal Curing Concepts to Mixtures with Higher Volumes of Fly Ash **10:00 am**
W. Jason Weiss, Professor, Purdue University, West Lafayette, IN; **Igor De la Varga** and **Javier Castro**, Purdue University; and **Dale Bentz**, National Institute of Standards and Technology

Wednesday, October 27, 2010
9:00 am-12:00 pm

Green Binders Technology (cont.) **C-304**

Micro-Nano Structural Characteristics and Performance of CKD-Slag Blends **10:20 am**
Sulapha Peethamparan, Assistant Professor, Clarkson University, Postdam, NY; **Piyush Chaunsali**, University of Illinois; and **Brooke Clare**, Clarkson University

Alkali-Activated Slag Cement (AASC) as a Sustainable Building Material **10:40 am**
Aleksandra Radlinska, Assistant Professor, Villanova University, Villanova, PA; and **Michel W. Barsoum**, Drexel University

Biogenic Silica from Rice Husk—A Sustainable Supplementary Cementing Material for Use in Portland Cement Concrete **11:00 am**
Prasad Rangaraju, Associate Professor, Clemson University, Clemson, SC; and **K. V. Harish**, Clemson University

Rheology and Physical and Durability Properties of Low Energy, Lightweight Concretes for Structural Applications **11:20 am**
P. A. Muhammed Basheer, Professor, Queen's University Belfast, Belfast, UK; and **David J. Cleland**, Queen's University Belfast

= AIA/USGBC approved session

Wednesday, October 27, 2010
9:00 am-12:00 pm

Progress in Reinforced Concrete Chimney Design, Construction, and Retrofits **C-303**
Sponsored by ACI Committee 307, Concrete Chimneys

Session Co-Moderators: David J. Bird
Technical Director of Engineering
Pullman Power LLC
Kansas City, MO

Shu-Jin Fang
Technical Advisor & Senior Manager
Sargent & Lundy LLC
Chicago, IL

This session will bring owners, contractors, engineers, and others up to date with the latest code changes and projects. The future direction of the ACI 307 will also be discussed during this session.

ACI 307 Code—Past, Present, and Future **9:00 am**
David J. Bird, Technical Director of Engineering, Pullman Power LLC, Kansas City, MO

An Analytical Comparison of the ACI 307-98 to ACI 307-08 **9:20 am**
Robert Porthouse, Vice President, Chimney Consultants Inc., West Lebanon, NH: and **Shu-Jin Fang**, Sargent & Lundy LLC

Shear Design of Reinforced Chimneys **9:40 am**
Javeed Munshi, Principal Engineer, Bechtel Power Corp, Frederick, MD; and **Suag-Jin Bae**, Bechtel Power Corp

Performance-Based Earthquake Evaluation of ACI 307-08: A Case Study of a 500-Foot Tall Chimney **10:00 am**
Sigmund Freeman, Principal Structural Engineer, San Francisco, CA

ACI 307-08 vs. CICIND 2001: A Comparison of Strength Computations **10:20 am**
Denis Radecki, Senior Structural Engineer, Commonwealth Dynamics, Inc., Terre Haute, IN

Extreme Wind Loads on Concrete Chimneys on Congested Sites **10:40 am**
Jon Galsworthy, Project Director, Rowan Williams Davies & Irwin Inc., Guelph, ON, Canada

Wednesday, October 27, 2010
9:00 am-12:00 pm

Progress in Reinforced Concrete Chimney Design, Construction, and Retrofits (cont.) **C-303**

Chimney Renovation—The Sustainable Alternate to New Construction **11:00 am**
Victor Bochicchio, Executive Vice President, Hamon Custodis, Inc., Somerville, NJ; and **Arun Bhowmik**, Hamon Custodis, Inc.

Strengthening of Large Openings in Reinforced Concrete Chimney Shells with Carbon Fiber-Reinforced Polymer (CFRP) **11:20 am**
Mohammad Ehsani, Associate Professor, University of Arizona, Tucson, AZ; and **Carlos Pena**, University of Arizona

Wednesday, October 27, 2010
9:00 am-12:00 pm

Textile Reinforced Concrete—Modern Developments, Part 3 **C-301**
Sponsored by ACI Committee 549, Thin Reinforced Cementitious Products and Ferrocement

Session Moderator: Ashish Dubey
Research Associate
USG Corporation
Libertyville, IL

This symposium is a continuation of Parts 1 and 2, which were held at the Spring 2010 Convention in Chicago, IL. This symposium highlights recent advances in the field of textile-reinforced concrete (TRC). Topics that will be covered include novel textile reinforcements for concrete, production of TRC, mechanical behavior of TRC, durability performance of TRC, fire performance of TRC, modeling and structural design of TRC, and practical applications of TRC. Practicing engineers, architects, structural designers, specifiers, contractors, academic, and research scientists with interest in the field of TRC would find this technical session highly pragmatic and beneficial to their professional development.

Introduction **9:00 am**
Ashish Dubey, Research Associate, USG Corporation, Libertyville, IL

Modeling of the Time-Dependent Degradation of the Bond Between AR-Glass Filament and Concrete **9:05 am**
Bong-Gu Kang, PhD Student, Institute for Structural Concrete—RWTH Aachen University, Aachen, Germany; and **Wolfgang Brameshuber**, Institute for Structural Concrete—RWTH Aachen University

Advanced Coating of Wrap-Knit Fabrics for Concrete Structures **9:35 am**
Michael Glowania, PhD Student, Institute of Textile Technology and Process Engineering—RWTH Aachen University, Aachen, Germany

High-Performance Textile Reinforcements Based on Carbon Fiber Heavy Tows **10:05 am**
Jan Hausding, Professor, Dresden University of Technology, Dresden, Germany; and **Chokri Cherif**, Dresden University of Technology

Wednesday, October 27, 2010
9:00 am-12:00 pm

Textile Reinforced Concrete—Modern Developments, Part 3 (cont.) **C-301**

Anchoring Failure Mechanisms of Textile-Reinforced Concrete Strengthening of RC Structures **10:35 am**
Regine Ortlepp, Professor, Dresden University of Technology, Dresden, Germany; and **Enrico Lorenz**, Dresden University of Technology

Aging of Textile-Reinforced Concrete and its Effects on Mechanical Performance **11:05 am**
Marko Butler, Professor, Dresden University of Technology, Dresden, Germany; and **Viktor Mechtcherine** and **Simone Hempel**, Dresden University of Technology

Wednesday, October 27, 2010
2:00 pm-5:00 pm

Blast Mitigation Retrofits—Research and Application **C-302**
Sponsored by ACI Committee 370, Short Duration Dynamic and Vibratory Load Effects

Session Moderator: Darrell D. Barker
Vice President
ABS Consulting Inc.
San Antonio, TX

Blast mitigation for existing structures requires state-of-the-art research coupled with engineering ingenuity. This session covers innovative approaches to strengthening of concrete structures for blast resistance. Presentations include test programs and case histories of practical retrofits.

Research on Blast Mitigation of Critical Infrastructure **2:00 pm**
Stanley C. Woodson, Research Structural Engineer, United States Army Corps of Engineers, Vicksburg, MS

Blast-Resistant Wall Upgrades with FRP **2:35 pm**
Marlon Bazan, Project Engineer, Protection Engineering Consultants, San Antonio, TX

Test Programs and Case Studies for Blast-Resistant Structure Retrofits **3:10 pm**
Tarek Alkhrdaji, Manager of Engineering—Strengthening Division, Structural Preservation Systems, Elkridge, MD

Blast Mitigation Utilizing Fiber-Reinforced Polymers for Petrochemical Facilities **3:45 pm**
Khaled El-Domiaty, Senior Engineer, Baker Engineering & Risk Consultants, Arlington, VA

Effective Blast Mitigation Techniques **4:20 pm**
Johnny Waclawczyk, Technical Manager, ABS Consulting, San Antonio, TX

Wednesday, October 27, 2010
2:00 pm-5:00 pm

Energy Conservation for Greener Buildings **C-303**
Sponsored by Joint ACI-TMS Committee 122, Energy Efficiency of Concrete and Masonry Systems, and ACI Committee 130, Sustainability of Concrete

Session Moderator: John P. Ries
President
Expanded Shale, Clay and Slate Institute
Salt Lake City, UT

Energy performance is a large component of sustainable building design and construction. This session provides an overview of criteria in energy codes and standards related to the thermal performance. Compliance approaches with various concrete and masonry systems will be provided.

Code Provisions for the Thermal Performance of Concrete and Masonry **2:00 pm**
Stephen S. Szoke, Director of Codes and Standards, Portland Cement Association, Skokie, IL

Thermal Performance of Concrete Masonry Wall Systems **2:25 pm**
Dennis W. Graber, Director of Technical Publications, National Concrete Masonry Association, Herndon, VA

Thermal Performance of Cast-in-Place Concrete Wall Systems **2:50 pm**
Donn C. Thompson, Director of Low-Rise Buildings, Portland Cement Association, Skokie, IL

Thermal Performance of Precast Concrete Wall Systems **3:15 pm**
Darryl E. Dixon, Director of Technical Services, Thermomass, Boone, IA

The Role of Concrete and Masonry in the Design of Thermal Envelopes of Sustainable Buildings **3:40 pm**
Jeffrey Speck, Vice President of Sales and Marketing, Big River Industries, Alpharetta, GA; and **John P. Ries**, Expanded Shale, Clay and Slate Institute

Wednesday, October 27, 2010
2:00 pm-5:00 pm

Energy Conservation for Greener Buildings (cont.) **C-303**

Guide to the Thermal Properties of Concrete and Masonry Systems **4:05 pm**
John P. Ries, President, Expanded Shale, Clay and Slate Institute, Salt Lake City, UT

Performance of Concrete and Masonry to Resistance Vapor Penetration and Air Infiltration **4:30 pm**
Dennis W. Graber, Director of Technical Publications, National Concrete Masonry Association, Herndon, VA

Wednesday, October 27, 2010
2:00 pm-5:00 pm

Textile Reinforced Concrete—Modern Developments, Part 4 **C-301**
Sponsored by ACI Committee 549, Thin Reinforced Cementitious Products and Ferrocement

Session Moderator: Ashish Dubey
Research Associate
USG Corporation
Libertyville, IL

This symposium is a continuation of Parts 1 and 2, which were held at the Spring 2010 Convention in Chicago, IL and Part 3 held earlier, Wednesday October 27. This symposium highlights recent advances in the field of textile-reinforced concrete (TRC). Topics that will be covered include novel textile reinforcements for concrete, production of TRC, mechanical behavior of TRC, durability performance of TRC, fire performance of TRC, modeling and structural design of TRC, and practical applications of TRC. Practicing engineers, architects, structural designers, specifiers, contractors, academicians, and research scientists with interest in the field of TRC would find this technical session highly pragmatic and beneficial to their professional development.

Introduction **2:00 pm**
Ashish Dubey, Research Associate, USG Corporation, Libertyville, IL

Behavior of Textile-Reinforced Concrete (TRC) under Biaxial Tension **2:05 pm**
Dirk Jesse, Professor, Dresden University of Technology, Dresden, Germany; and **Frank Jesse**, Dresden University of Technology

Design Models for Textile Reinforced Concrete under Bending and Shear Loading **2:35 pm**
Maike Schneider, Professor, Institute of Structural Concrete—RWTH Aachen University, Aachen, Germany; and **Josef Hegger** and **Norbert Will**, Institute of Structural Concrete—RWTH Aachen University

Stress Distribution between Textile Reinforcement and Reinforcing Bar Reinforcement in TRC-Strengthened RC Structures **3:05 pm**
Silvio Weiland, Professor, Dresden University of Technology, Dresden, Germany; and **Manfred Curbach**, Dresden University of Technology

Wednesday, October 27, 2010
2:00 pm-5:00 pm

Textile Reinforced Concrete—Modern Developments, Part 4 (cont.) **C-301**

Torsion Strengthening of RC Beams with Textile-Reinforced Concrete (TRC) **3:35 pm**
Manfred Curbach, Professor, Dresden University of Technology, Dresden, Germany; and **Frank Schladitz**, Dresden University of Technology

Predicting the Uniaxial Material Properties of TRC Using a Hierarchical Approach **4:05 pm**
Bernd W. Zastrau, Professor, Dresden University of Technology, Dresden, Germany

Numerical Design Methods for TRC Strengthening under Consideration of Uncertainty **4:35 pm**
Jan-Uwe Sickert, Research Assistant, Dresden University of Technology, Dresden, Germany

Thursday, October 28, 2010
8:00 am-5:00 pm

✓Anchorage to Concrete Seminar **W-FAYETTE**
7:30 am registration; coffee and pastries available
$597 Non-Member Registration Fee
$457 ACI National Members Registration Fee
$125 Full-Time Students (with proof of enrollment)

Speakers: Robert R. McGlohn
Engineering Project Manager
BE&K Engineering
Birmingham, AL

Donald F. Meinheit
Affiliated Consultant
Wiss, Janney, Elstner Associates, Inc.
Chicago, IL

This seminar will cover the basic ACI design framework for anchorage to concrete; the background of ACI 318-08, Appendix D; several design examples using the provisions in ACI 318-08, Appendix D; and the background behind ACI 355.2-07 anchor qualification requirements. After listening to knowledgeable instructors and working through both simple and more complex problems, you should have the tools you need to design structural connections to concrete using the anchorage provisions of ACI 318-08 with confidence. Engineers, architects, specifiers and building officials are encouraged to attend this one-day seminar.

Notes

ACI Board Committees and Chairs

Certification Programs	G. Terry Harris
Chapter Activities	Dawn L. Miller
Construction Liaison	Michael J. Schneider
Convention	Kari Yuers
Educational Activities	David M. Suchorski
Financial Advisory	William E. Rushing Jr.
Honors and Awards	Thomas D. Verti
International	Luke M. Snell
Marketing	Beverly A. Garnant
Membership	Tarek S. Khan
Publications	John S. Popovics
Responsibility in Concrete Construction	Jeffrey W. Coleman
Standards Board	Anthony E. Fiorato
Student and Young Professional Activities Committee	George R. Wargo
Technical Activities	David A. Lange

ACI Convention Committee

Kari Yuers, Chair
Katie Bartojay
Joseph J. Biernacki
Ramon L. Carrasquillo
Mark A. Cheek
James H. Hanson
Gary F. Knight
David A. Lange
William J. Lyons
Kirk L. McDonald
Debrethann R. Orsak
Aimee Pergalsky
William E. Rushing Jr.
David H. Sanders
Michael J. Schneider
David M. Suchorski
Lawrence H. Taber
Renée J. Lewis, Staff Liaison

Session Attendance Tracking Form for the ACI Fall 2010 Convention

Pittsburgh, PA • October 24-28, 2010

Use this form to track your attendance at ACI sessions. This form can be submitted to state boards that allow self-reporting of Continuing Education activities as evidence of participation. Note: New York does NOT accept self-reporting. In most cases, 1 contact hour is equal to 1 Professional Development Hour (PDH). Check with your state board for acceptance criteria. *Please note: ACI does not track and cannot provide documentation confirming attendee participation or attendance at any ACI session held during the convention unless otherwise noted.*

Instructions: Check off each session you attended and write in the number of PDH credits you earned for each day.

Remember that 1 PDH is equal to a contact hour (nominal) of instruction or presentation, rounded down to the nearest half-hour.

SATURDAY, OCTOBER 23, 2010

1:00 p.m.-5:00 p.m. **4 PDH**

- ❑ ACI Concrete Sustainability Forum III (ISO/TC71/SC8/130)

SUNDAY, OCTOBER 24, 2010

2:00 p.m.-5:00 p.m. **3 PDH**

- ❑ Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 1 (447/370)
- ❑ Design of Sustainable Concrete Bridges (343/130)
- ❑ Emerging Technologies in Civil Infrastructure Applications (TTAG/SDC)
- ❑ Errors in the Design and Construction of Concrete Structures – Examples, Consequences, and Mitigation (348/345)
- ❑ High Performance Concrete for Sustainable Columns (441)

7:30 p.m.-10:00 p.m. **2.5 PDH**

- ❑ 123 Forum: (123)
- ❑ Hot Topic Session: Full Scale Testing of ACI 318 in Chile (HTC)

MONDAY, OCTOBER 25, 2010

9:00 a.m.-12:00 p.m. **3 PDH**

- ❑ Research in Progress (123)
- ❑ Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 2 (447/370)
- ❑ Hybrid Systems for Sustainable Construction, Part 1 (335/440)
- ❑ Practical Applications of Numerical Analysis and Design (118/447)
- ❑ Sustainability of Concrete Pavements (325/130/330)

2:00 p.m.-5:00 p.m. **3 PDH**

- ❑ Analysis, Design and Construction Practices in Environmental Engineering Concrete Structures: An Overview of ACI 350 Code and Commentary (350)
- ❑ Blast and Impact Loading Response of Concrete Structures: Experimental and Numerical Investigations, Part 3 (447/370)
- ❑ Diagnosis and Repair of Structures Suffering from Durability Problems (201)
- ❑ High Performance Concrete for Seismic Design of Bridges (341)
- ❑ Hybrid Systems for Sustainable Construction, Part 2 (335/440)

MONDAY, OCTOBER 25, 2010 (cont.)

6:00 p.m.-7:30p.m. **1.5 PDH**

- ❑ Testifying before Congress—Preparation of an Official ACI Statement on Fly Ash

TUESDAY, OCTOBER 26, 2010

9:00 a.m.-12:00 p.m. **3 PDH**

- ❑ Contractors' Day Session & Tour: David L. Lawrence Convention Center, the First Green Convention Facility (ACI Pittsburgh Area Chapter)
- ❑ Mineral Fillers: Role in Self-Consolidating Concrete (237)
- ❑ Seismic Performance of Concrete Joints and Connection (352)
- ❑ Sustainable Design with Concrete, Part 1 (533/130/124)
- ❑ Technical Session in Honor of Dov Kaminetzky, Part 1 (347)

2:00 p.m.-5:00 p.m. **3 PDH**

- ❑ Open Paper Session (123)
- ❑ Contractors' Day Session: I'm Bidding on a LEED Project, Now What? (ACI Pittsburgh Area Chapter)
- ❑ High Strength & Corrosion Resistant Reinforcing Steel for Concrete Structures (439)
- ❑ Sustainable Design with Concrete, Part 2 (533/130/125)
- ❑ Technical Session in Honor of Dov Kaminetzky, Part 2 (347)

WEDNESDAY, OCTOBER 27, 2010

9:00 a.m.-12:00 p.m. **3 PDH**

- ❑ Corrosion Resistant Reinforcement – Current Performance and Alternative Materials (222)
- ❑ Green Binders Technology (236/130)
- ❑ Progress in Reinforced Concrete Chimney Design, Construction, and Retrofits (307)
- ❑ Textile Reinforced Concrete – Modern Developments, Part 3 (549)

2:00 p.m.-5:00 p.m. **3 PDH**

- ❑ Blast Mitigation Retrofits – Research and Application (370)
- ❑ Energy Conservation for Greener Building (122)
- ❑ Textile Reinforced Concrete – Modern Developments, Part 4 (549)

Enter your name and address here

DAILY PDH TOTALS AVAILABLE

Total completed on Sunday, 10/24/10 _____
Total completed on Monday, 10/25/10 _____
Total completed on Tuesday, 10/26/10 _____
Total completed on Wednesday, 10/27/10 _____
Total number of PDHs completed _____

Thank you for attending the ACI Fall 2010 Convention!

Future ACI Conventions

Spring 2011
Concrete—The Strength of Florida
April 3-7, 2011
Marriott Tampa Waterside &
Westin Harbour Island
Tampa, FL

Fall 2011
Bridging Theory and Practice
October 16-20, 2011
Millennium Hotel &
Duke Energy Center
Cincinnati, OH

Spring 2012
The Art of Concrete
March 18-22, 2012
Hyatt Regency Dallas
Dallas, TX

American Concrete Institute®
Advancing concrete knowledge

American Concrete Institute
P.O. Box 9094
Farmington Hills, MI 48333-9094
Phone: 248-848-3700
Fax: 248-848-3701
www.concrete.org