ACI Spring 2011
Convention Program Book

April 3-7 • Marriott Tampa Waterside Hotel & Marina and Westin Harbour Island, Tampa, FL

Concrete—
The Strength of Florida

CONCRETE - THE STRENGTH OF FLORIDA
TAMPA BAY 2011
ACI FLORIDA SUNCOAST CHAPTER

Want the Latest Convention Updates?

ACI Mobile

Type **mobile.concrete.org/convention** into your mobile phone's Internet browser, and you will have convention information right at your fingertips. Access the Meeting Schedule, My Schedule, Program, Sessions, and Future Conventions from virtually anywhere.

Facebook and Twitter

Follow the ACI Convention on Facebook at **http://www.facebook.com/pages/American-Concrete-Institute-ACI/79308249901#!/event.php?eid=115092131894448** and on Twitter at **#aciconvention** for the latest information.

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April 3-7, 2011
Marriott Tampa Waterside Hotel & Marina and
Westin Tampa Harbour Island
Tampa, FL

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ACI President's Welcome

ACI Members and Guests—Welcome to Tampa and the ACI Spring 2011 Convention!

I would like to begin by sincerely thanking you for attending the ACI Spring 2011 Convention. Each convention attendee plays an important role in the success of every convention by contributing his or her knowledge, experience, dedication, and cheerful enthusiasm. The success and growth of ACI relies on its strongest asset—its members. By attending the convention in Tampa, you are helping us all achieve the five goals in ACI's strategic plan: knowledge, sustainability, industry collaboration, education, and member value.

The members of the Florida Suncoast Chapter and our ACI staff have already worked very hard to coordinate the thousands of essential details that make it possible for the rest of us to learn, contribute, and network in a professional environment. Convention highlights include the Tenth International Symposium on Fiber-Reinforced Polymer Reinforcement , the Student FRP Composites and Concrete Construction Competition, multiple sessions on performance requirements, and the Concrete Mixer at the Florida Aquarium. Whether you attend committee meetings, technical sessions, or relax and enjoy networking with friends and other concrete professionals, it is my hope that all of you will gain valuable industry information and have a rewarding experience that will enhance your career in concrete.

I am honored to share this week with each one of you. Again, I wish to thank you, our members, guests, and the ACI Florida Suncoast Chapter for making this convention a success. I hope your time at "Concrete—The Strength of Florida" is productive and memorable and that you have the opportunity to experience much that the city of Tampa has to offer.

Kind Regards,

Ken Hover

Kenneth C. Hover
ACI President

RICK SCOTT
GOVERNOR

April 3, 2011

Dear Friends,

It is a pleasure to welcome you to the Spring 2011 Convention of the American Concrete Institute in Tampa, Florida.

The purpose of this convention is to provide a forum for networking, learning the latest in concrete technology, and to give input on concrete industry codes, specifications, and guides. Our state is proud to host this convention, and we look forward to showcasing the hospitality that makes Florida the world's destination of choice. Enjoy the beauty of our state parks, world-class attractions, and our miles of beaches. Florida offers an endless variety of enticements and remains one of the most dynamic and diverse destinations you can experience.

Best wishes for a successful convention.

Sincerely,

Rick Scott

Welcome Convention #1 Attendees

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

Sunday

Convention #1 Breakfast **M-Meeting Rooms 9&10**
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 Reception **M-Patio**
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 **M-Grand A-E**
8:00 AM - 8:30 AM
Join other Convention #1 Attendees and mentors for morning coffee to discuss the day's events.

BYOL (Bring your own lunch) **M-Grand A-E**
at the Meeting Spot
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 11:30 AM - 1:30 PM daily.

Tuesday

Pre-Mixer Happy Hour **M-Champions**
5:00 PM
Meet for a pre-Mixer beverage with mentors and other Convention #1 Attendees. Beverages will be available for purchase.

ACI Sustaining Members

ACS Manufacturing Corporation

Buzzi Unicem USA

Ash Grove Cement Company

Cantera Concrete Company

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Baker Concrete Construction

Barrier-1 Inc.

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Triad Engineering, Inc.

Propex Concrete Systems

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Wacker Neuson

Westroc, Inc.

Convention Sponsors

The ACI Florida Suncoast Chapter wishes to thank the following organizations for their donations to make the ACI Spring 2011 Convention a success.

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ACI Florida Suncoast Chapter
Baker Concrete Construction
Construction Materials Engineering Council, Inc. (CMEC)
Titan America/Separation Technologies/Tarmac

DOLPHIN

ACI Central Florida Chapter
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Florida Independent Concrete & Associated Products, Inc. (FICAP)
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STINGRAY

ACI Alberta Chapter
ACI Arizona Chapter
ACI Florida First Coast Chapter
ACI Georgia Chapter
ACI Greater Miami Valley Chapter
ACI Illinois Chapter
ACI Las Vegas Chapter
ACI Maryland Chapter
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ACI New Jersey Chapter
ACI New Mexico Chapter
ACI Northeast Ohio Chapter
ACI Northeast Texas Chapter
ACI Northern California and Western Nevada Chapter
ACI Ontario Chapter
ACI Pittsburgh Area Chapter
ACI Rocky Mountain Chapter
ACI San Antonio Chapter

Convention Sponsors

STINGRAY (cont.)

The Concrete Industry Board—ACI New York City Chapter
The CROM Corporation
Decorative Concrete Supply, Inc.
Propex Concrete Solutions
Walter P Moore

SEAHORSE

ACI Mid-South Chapter
ACI South Florida Chapter
Kal Hindo
Robert S. Jenkins
Westroc

Sponsors are listed as of 3/8/11.

Break Sponsors

Coffee and pastries will be available in the ACI Exhibit Area Sunday through Tuesday courtesy of the following sponsors.

SUNDAY
S&ME, Inc.

MONDAY
Headwaters Resources

TUESDAY
Dansco Engineering, LLC

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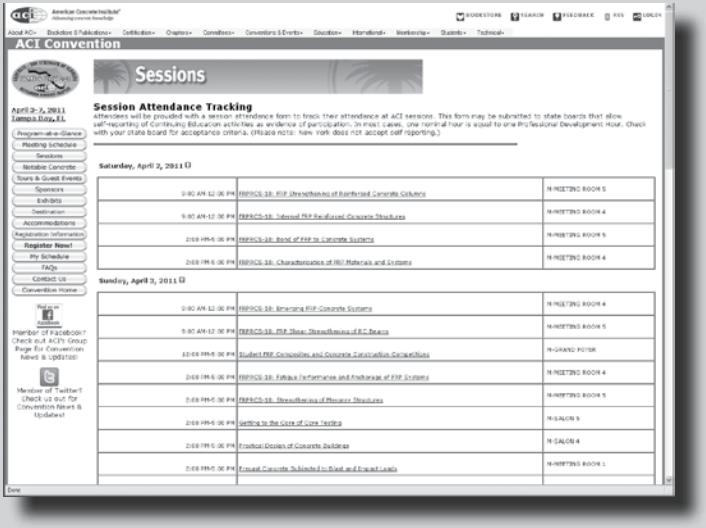
Session Handouts and Presentations on Demand

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 June 2011.



General Information

M = Marriott W = Westin

ACI REGISTRATION M-GRAND A-E

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

Saturday	8:00 AM - 2:00 PM (FRPRCS-10 Registration—outside M-MEETING ROOM 5)
	2:00 PM - 6:00 PM (ACI & FRPRCS-10 Registration)
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—moved to M-GRAND FOYER

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 ACI REGISTRATION

Cancellations, additions, and location changes to the convention schedule will be posted daily on a monitor near ACI Registration at the Marriott Tampa Waterside Hotel & Marina.

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 ask for security at the Marriott and Westin.

General Information

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BREAKS **M-GRAND A-E**

Beverages are available during the following hours:

Saturday	Soda:	2:00 PM - 5:00 PM
Sunday-Tuesday	Coffee & pastries:	7:00 AM - 10:00 AM
	Lunch concession:	11:30 AM - 1:30 PM
	Soda:	12:00 PM - 3:00 PM
Wednesday	Coffee:	7:00 AM - 10:00 AM— moved to **M-GRAND FOYER**

WATER STATIONS

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

ALCOHOL POLICY

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

ACI BOOK DRIVE **M-GRAND FOYER**

Making Literacy More Concrete!

ACI is asking that each attendee bring a new or gently used book to the convention for children in grades K-12. ACI is also accepting cash donations, which will be given to the Teacher Supply Center to purchase additional school supplies. Donations can be made at the Marriott Tampa Waterside Hotel & Marina in the Grand Foyer during open exhibit hours. **Help us reach our goal of 800 books!**

Donated books will be given to the Teaching Tools for Hillsborough Schools free Teacher Supply Center. The mission of Teaching Tools for Hillsborough Schools is to ensure that children in Hillsborough County have the basic tools for learning by bringing the community's surplus supplies into the hands of teachers and schoolchildren at no cost to them! Teachers from participating Title 1 schools in Hillsborough County have the opportunity to visit the supply center once a month to pick up needed supplies for their classroom. Due to recent school budget cuts, some teachers are unable to provide a sufficient amount of teaching tools and supplies for their classroom. Your donation will give teachers and students the opportunity to create a successful learning environment.

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ACI BOOKSTORE **M-GRAND FOYER**

Visit the ACI Bookstore to receive 10% off publications and learn how to win a 2011 *Manual of Concrete Practice* CD-ROM during the following hours:

Saturday	2:00 PM - 6:00 PM
Sunday-Tuesday	8:00 AM - 5:00 PM
Wednesday	8:00 AM - 12:00 PM

ACI CAREER CENTER **M-GRAND FOYER**

Looking for a job or an employee? Visit the ACI Bookstore to view ACI's Career Center online. This job search engine is specifically targeted to the concrete industry. Job seekers, you'll have an opportunity to post your résumé and to view, apply for, and save available jobs. Currently, there are approximately 100 jobs listed in ACI's 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—M-GRAND FOYER**

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

CYBER STATIONS & WIRELESS HOT SPOTS **M-GRAND A-E**

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 – moved to **M-GRAND FOYER**

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

MEETING SPOT **M-GRAND FOYER**

Convention attendees are encouraged to visit the meeting spot for coffee or lunch and to meet first-time attendees and other convention attendees, Monday and Tuesday, 8:00 AM - 8:30 AM and 12:00 PM - 1:00 PM. Lunch items will be available for purchase 11:30 AM - 1:30 PM daily.

General Information

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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 Stations 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.

LOCAL INFORMATION—ACI Florida Suncoast Chapter Desk **M-GRAND FOYER**
ACI Florida Suncoast Chapter members will be happy to answer general convention questions and provide information about the local area. Stop by their desk during the following hours:

Saturday	2:00 PM - 6:00 PM
Sunday - Tuesday	8:00 AM - 5:00 PM

RESTAURANT RESERVATIONS
The concierge will be available to make restaurant reservations and recommendations every day from 12:00 PM - 8:00 PM at the Marriott and Friday, Saturday, and Sunday from 3:00 PM - 11:00 PM at the Westin. Should you need to make restaurant reservations when the concierge desk is closed, please visit the hotel front desk.

RESTAURANTS
MARRIOTT
ACI Concession Stand **M-GRAND A-E**
A concession stand will be set up in **M-GRAND A-E** Sunday through Tuesday, 11:30 AM - 1:30 PM, for lunch. Sandwiches, salads, fruit, and other grab-and-go items will be available for purchase.

Café Waterside
Enjoy American favorites from this restaurant's relaxed setting, perfect for a casual breakfast, lunch, or dinner. Open daily: Breakfast—6:30 AM - 11:00 AM; Lunch—11:30 AM - 2:30 PM; and Dinner—5:00 PM - 10:00 PM. **Café Waterside will also offer a $15 lunch buffet Sunday through Wednesday**.

General Information

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MARRIOTT RESTAURANTS (cont.)

Champions Sports Bar

Enjoy lunch or dinner in this lively sports bar. Champions features a unique, authentic sports pub ambience, complete with tennis court flooring! **Champions will feature food and drink specials for ACI attendees.** Open daily from 11:00 AM to 2:00 AM.

Il Terrazzo

Offering Italian specialties for dinner, this fine dining restaurant provides an intimate ambience with authentic cuisine that will taste as if it's directly from Northern Italy. Open for dinner Sunday through Thursday, 5:30 PM - 10:00 PM, and Friday through Saturday, 5:30 PM - 11:00 PM.

Pool Bar & Grill

Discover a relaxing setting for beverages and sandwiches enjoyed poolside for a unique and convenient downtown Tampa restaurant experience. Open daily from 11:30 AM to sunset.

Coffee Kiosk

Stop by and grab a coffee or a pastry; open daily from 6:00 AM to 2:00 PM.

Lobby Bar

The lobby bar offers snacks, sandwiches, appetizers, and drinks daily from 11:30 AM to 12:00 AM.

Room Service

Marriott room service is available daily from 6:00 AM to 12:00 AM.

WESTIN RESTAURANTS

725 South

This casual but elegant restaurant is the perfect place to grab an early breakfast, quick lunch, or a casual dinner. Open daily: Breakfast—6:30 AM - 11:00 AM; Lunch—11:30 AM - 1:00 PM; and Dinner—6:00 PM - 11:00 PM.

The Bar

Open for light appetizers and drinks daily from 11:00 AM - 11:00 PM.

Room Service

Westin room service is available 24 hours a day.

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TRANSPORTATION

Airport Shuttle

SuperShuttle offers a scheduled transfer service 7 days a week, 24 hours a day from the Marriott and Westin to the Tampa International Airport and the St. Petersburg-Clearwater International Airport. Use the special group code **9KUUN** and receive the following reduced rates:

- Tampa International Airport: $12.00 one way or $20.00 round trip
- St. Petersburg-Clearwater International Airport: $55.00 one way

No reservations are necessary for departures from the airport but are recommended. 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 the airports, which could delay your anticipated arrival/departure times**.

Hotel Shuttle

A continuous shuttle will run between the Tampa Marriott Waterside & Marina and the Westin Harbour Island Hotel every 15 minutes during the following days and times:

Saturday, April 2, 2011:	12:30 PM - 6:00 PM
Sunday, April 3, 2011:	6:30 AM - 10:15 PM
Monday, April 4, 2011:	6:00 AM - 8:00 PM
Tuesday, April 5, 2011:	6:30 AM - 9:30 PM
Wednesday, April 6, 2011:	6:00 AM - 8:00 PM

Also the Westin Harbour Island Hotel offers a complimentary shuttle within a 3-mile radius of the hotel; however, this shuttle is based on availability and operates on a first-come, first-served basis.

Taxis

Taxi cabs are available outside each hotel. The flat rates for a taxi to the airport are as follows:

- To Tampa International Airport: $25 one way
- To St. Petersburg-Clearwater International Airport: $40 one way

General Information

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Historic Streetcar

The TECO Line Streetcar System currently offers 10 station stops along its 2.4-mile route. Five stops are located in Tampa's Channel District, four are in historic Ybor City, and one is downtown. The Channel District stops include The Florida Aquarium—site of the Concrete Mixer.

ACI attendees will receive FREE rides throughout the week by showing their convention name badge upon boarding the streetcar.

Hours

Monday - Thursday	11:00 AM - 10:00 PM
Friday	11:00 AM - 2:00 AM
Saturday	9:00 AM - 2:00 AM
Sunday	12:00 PM - 10:00 PM

Streetcars run every 15-20 minutes, **except as follows**:

- Every 30 minutes 9:00 AM - 11:00 AM on Saturdays and 1:00 AM - 2:00 AM on Fridays and Saturdays.
- Every 20 minutes from 3:00 PM - 10:00 PM Mondays through Wednesdays.

For additional information on station stops and a map of the streetcar route, please visit **www.tecolinestreetcar.org**.

SESSION ATTENDANCE TRACKING FORM

The Session Attendance Tracking Form found after page 172 can be submitted to state boards that allow self-reporting of Continuing Education activities as evidence of participation. In most cases, 1 contact hour is equal to 1 Professional Development Hour (PDH). Check with your state board for acceptance criteria. **Please note: ACI does not track and cannot provide documentation confirming attendee participation or attendance at any ACI session held during the convention.**

General Information

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SPEAKER READY ROOM **M-OFFICE 1 & 2**

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

Saturday	7:00 AM - 6:00 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 1 day prior to their session to ensure that:

- ACI has downloaded their presentation on the network in the session rooms; and
- Speakers' session handouts are downloaded onto the ACI Web site.

ACI FALL 2011 CONVENTION **M-GRAND FOYER**

Mark your calendars for the Fall 2011 Convention in Cincinnati, OH, October 16-20, 2011, at the Millennium Hotel and Duke Energy Convention Center.

Stop by the ACI Greater Miami Valley Chapter Desk Saturday through Tuesday to learn more about the convention and Cincinnati.

Tours and Guest Events

M = Marriott W = Westin

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

All tours will depart from the main lobby of the Marriott Tampa Waterside.

Sunday - Wednesday

★Guest Hospitality **M-IL TERRAZZO RESTAURANT**
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.

★Guest Lounge **M-IL TERRAZZO FOYER**
10:00 AM - 4:00 PM

Sunday, April 3, 2011

★Guest Overview **M-IL TERRAZZO RESTAURANT**
8:00 AM - 9:00 AM
Acquaint yourself with the week ahead! You'll also get a preview of the guest programs for the Fall 2011 Convention in Cincinnati, OH, and the Spring 2012 Convention in Dallas, TX.

✓Neighborhoods of Tampa Bay
$48 U.S. per person
9:00 AM - 2:00 PM
This driving tour will begin in Ybor City, where you will discover a special mix of architecture in the National Landmark neighborhood with Italian, Spanish, and Cuban heritage. Then you will head down Bayshore Boulevard, which features the world's longest continuous sidewalk—4.5 miles without a break. Along the way, you will see some of Tampa's most elegant and historic homes. Following Bayshore, you will be on your way to the SoHo and Hyde Park areas, where you will have the opportunity to shop at the Olde Hyde Park Village—featuring upscale boutiques—and enjoy lunch on your own at one of several restaurants. The final stop is the Henry B. Plant Museum, formerly a glamorous Tampa Bay Hotel and now a National Historic Landmark and museum.

✓ = Separate fee required
★ = Registered guest event only

Tours and Guest Events

M = Marriott W = Westin

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

All tours will depart from the main lobby of the Marriott Tampa Waterside.

Monday, April 4, 2011

✓Explore Downtown St. Petersburg
$88 U.S. per person
9:00 AM - 3:00 PM

This tour begins at the Salvador Dali Museum, home to the world's most comprehensive collection of works by the Spanish surrealist Salvador Dali. You will be awed by the size and complexity of some of the largest Dali paintings in the world. Enjoy a private guided tour and then some free time to browse through the extensive gift shop. You will then continue to the Chihuly Collection, a permanent collection of world-renowned artist Dale Chihuly. Located on the city's waterfront, the collection is marked by an iconic 20 ft sculpture created especially for the site. Following your tour of the museum, you will have some free time to shop, enjoy lunch, and gallery hop along Beach Drive.

★Guest Social **W-TERRACE**
3:30 PM - 5:00 PM

Please join Mrs. Hover for light refreshments. This is a wonderful opportunity to get to know other registered guests and enjoy a refreshing break! Also, hear about Tampa's colorful history from local speaker Rene Gonzalez. A guest name badge is required to attend this event.

Tuesday, April 5, 2011

✓ Strolling in Ybor
$95 U.S. per person
9:30 AM - 2:00 PM

This walking tour of Ybor—a National Landmark neighborhood with Italian, Spanish, and Cuban heritage—will reveal a special mix of architecture, including wrought iron balconies, vibrant Spanish tile, classical façades, historic cigar factories, charming cottages, and a museum. You will make a stop at the Columbia Restaurant for a behind-the-scenes tour of the 100-year-old, city-block-sized restaurant. Following the tour, enjoy a Spanish-style lunch as you are entertained by the Columbia Restaurant Dance Troupe, who perform a Flamenco dance nightly at the restaurant. Following lunch, you will have the opportunity to shop in the Columbia Restaurant's own cigar shop, where you can purchase cigars and imported gifts from Spain.

✓ = Separate fee required
★ = Registered guest event only

Tours and Guest Events

M = Marriott W = Westin

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

All tours will depart from the main lobby of the Marriott Tampa Waterside.

Wednesday, April 6, 2011

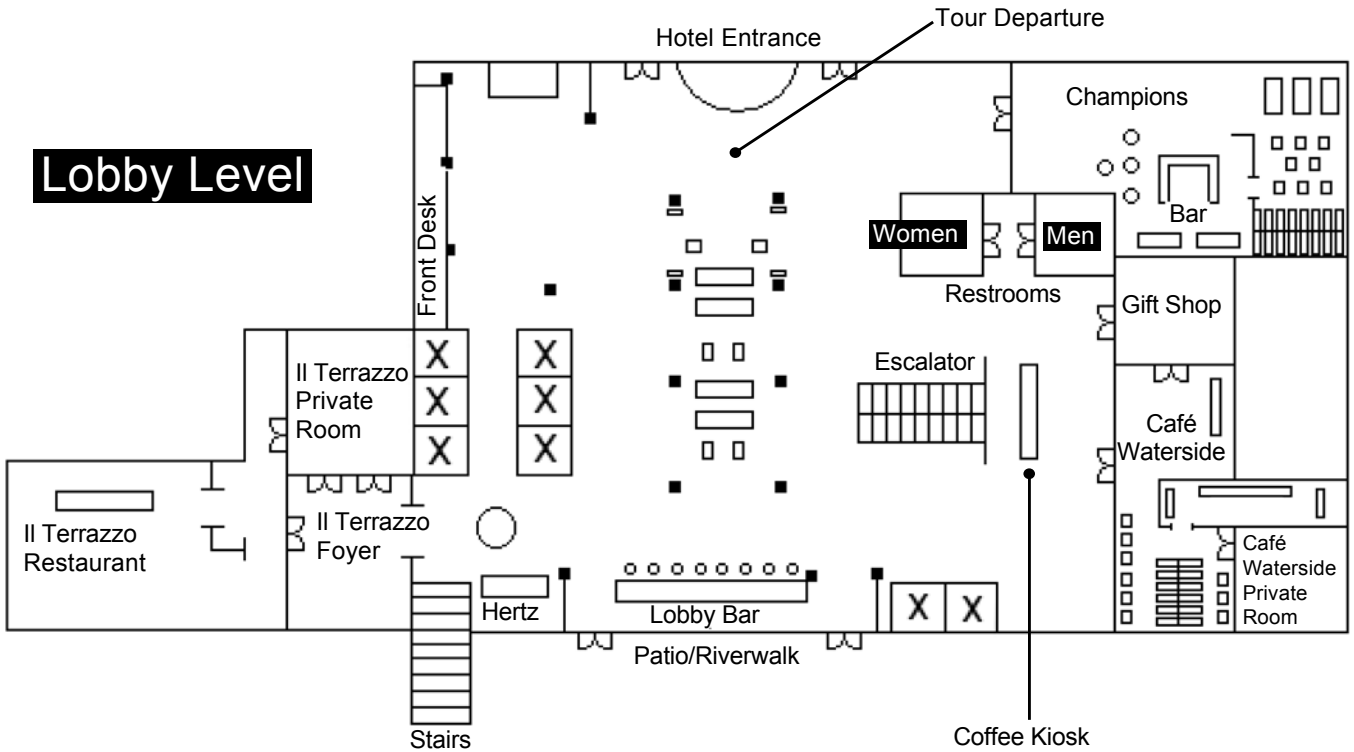
Explore the local area on your own. There are plenty of attractions to choose from, including the Tampa Museum of Art, Lowery Park Zoo, Busch Gardens, Glazer Children's Museum, and the Museum of Science and Industry. Orlando, home to *Walt Disney World*® and Universal Studios, is a 90-minute drive from downtown Tampa. You can also visit our beautiful beaches! Top-rated beaches include Fort DeSoto Park and Caladesi Island. Stop by the ACI Florida Suncoast Chapter desk for recommendations. Visit **www.aciconvention.org** for special theme-park/attraction offers for ACI attendees and guests.

Where's That Meeting Room?

M = Marriott W = Westin

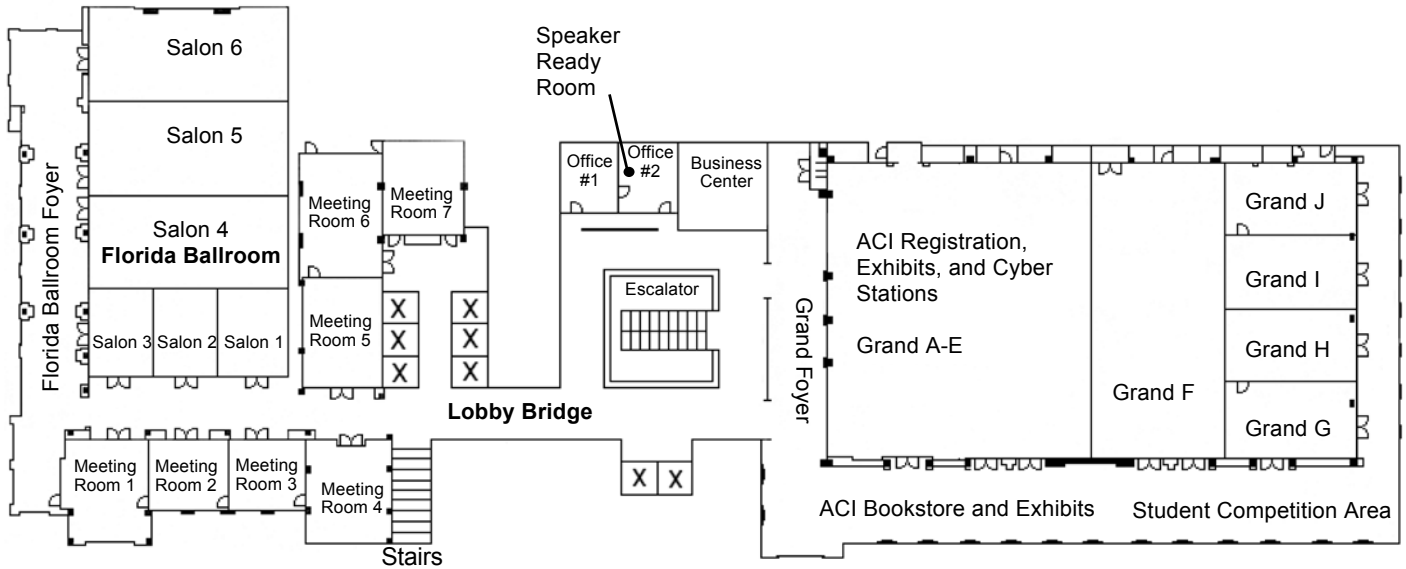
Room Name	Location
M-CAFÉ WATERSIDE PRIVATE DINING ROOM	Lobby Level
M-FLORIDA BALLROOM FOYER	2nd Floor
M-GRAND BALLROOM A-E	2nd Floor
M-GRAND BALLROOM F	2nd Floor
M-GRAND BALLROOM G	2nd Floor
M-GRAND BALLROOM H	2nd Floor
M-GRAND FOYER	2nd Floor
M-GRECO	3rd Floor
M-IL TERRAZZO RESTAURANT	Lobby Level
M-IL TERRAZZO FOYER	Lobby Level
M-IL TERRAZZO PRIVATE DINING ROOM	Lobby Level
M-MEETING ROOM 1	2nd Floor
M-MEETING ROOM 2	2nd Floor
M-MEETING ROOM 3	2nd Floor
M-MEETING ROOM 4	2nd Floor
M-MEETING ROOM 5	2nd Floor
M-MEETING ROOM 6	2nd Floor
M-MEETING ROOM 7	2nd Floor
M-MEETING ROOM 8	3rd Floor
M-MEETING ROOM 9	3rd Floor
M-MEETING ROOM 10	3rd Floor
M-MEETING ROOM 11	3rd Floor
M-MEETING ROOM 12	3rd Floor
M-MEETING ROOM 13	3rd Floor
M-OFFICE 1 & 2	2nd Floor
M-PATIO	Lobby Level
M-SALON 1	2nd Floor
M-SALON 2	2nd Floor
M-SALON 3	2nd Floor
M-SALON 4	2nd Floor
M-SALON 5	2nd Floor
M-SALON 6	2nd Floor
M-SUITE 401	4th Floor
M-SUITE 501	5th Floor
M-SUITE 601	6th Floor
M-SUITE 701	7th Floor
M-SUITE 1001	10th Floor
M-SUITE 1101	11th Floor

Marriott Tampa Waterside Hotel Floor Plans



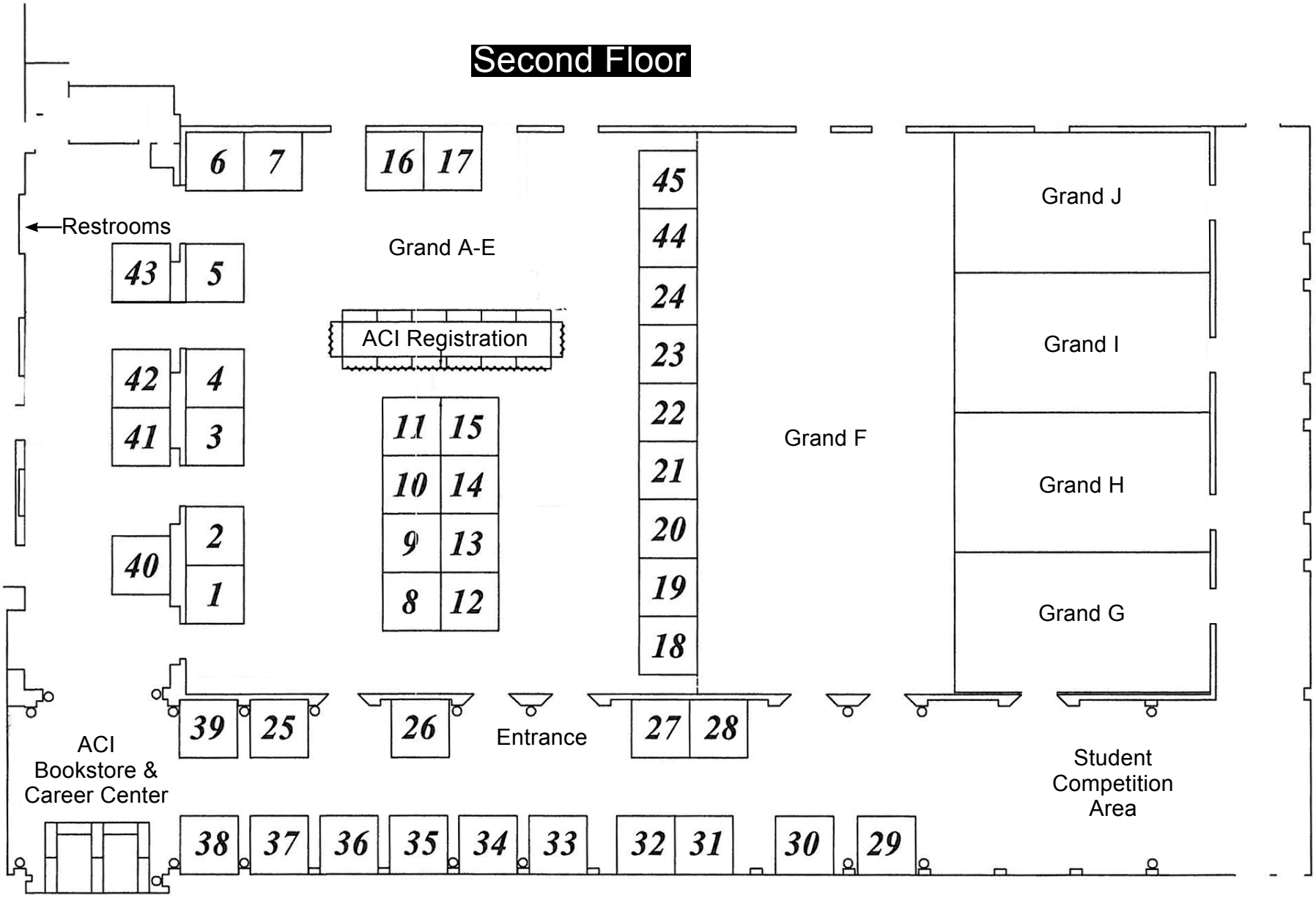
Marriott Tampa Waterside Hotel Floor Plans

Second Floor



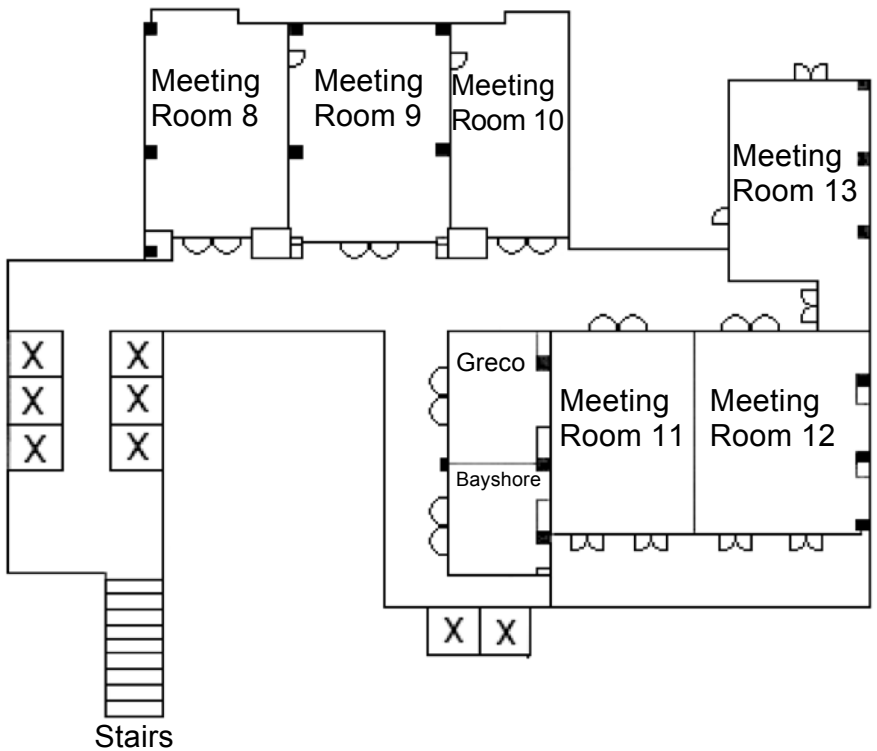
Marriott Tampa Waterside Hotel Floor Plans

Exhibitor Floor Plan

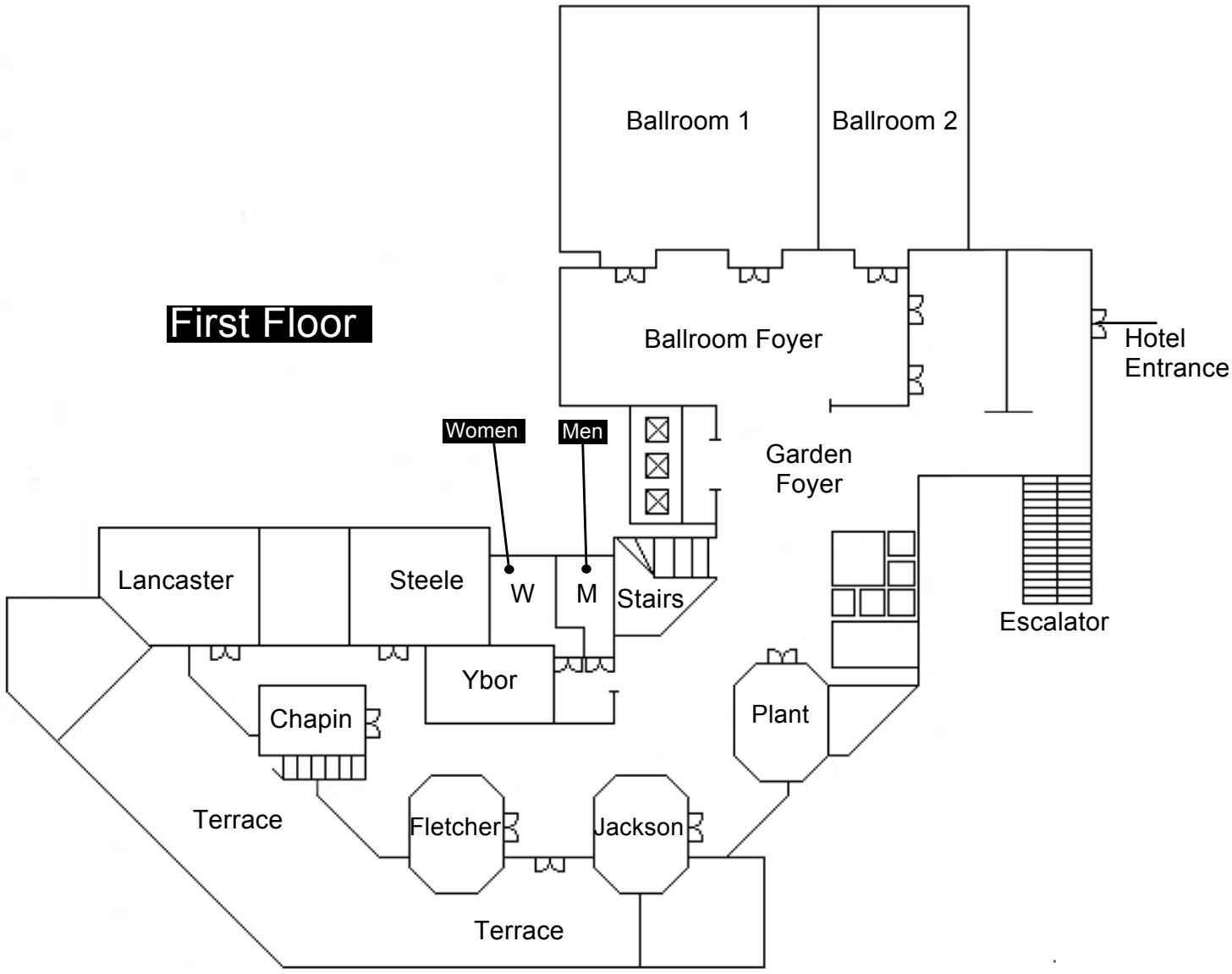


Marriott Tampa Waterside Hotel Floor Plans

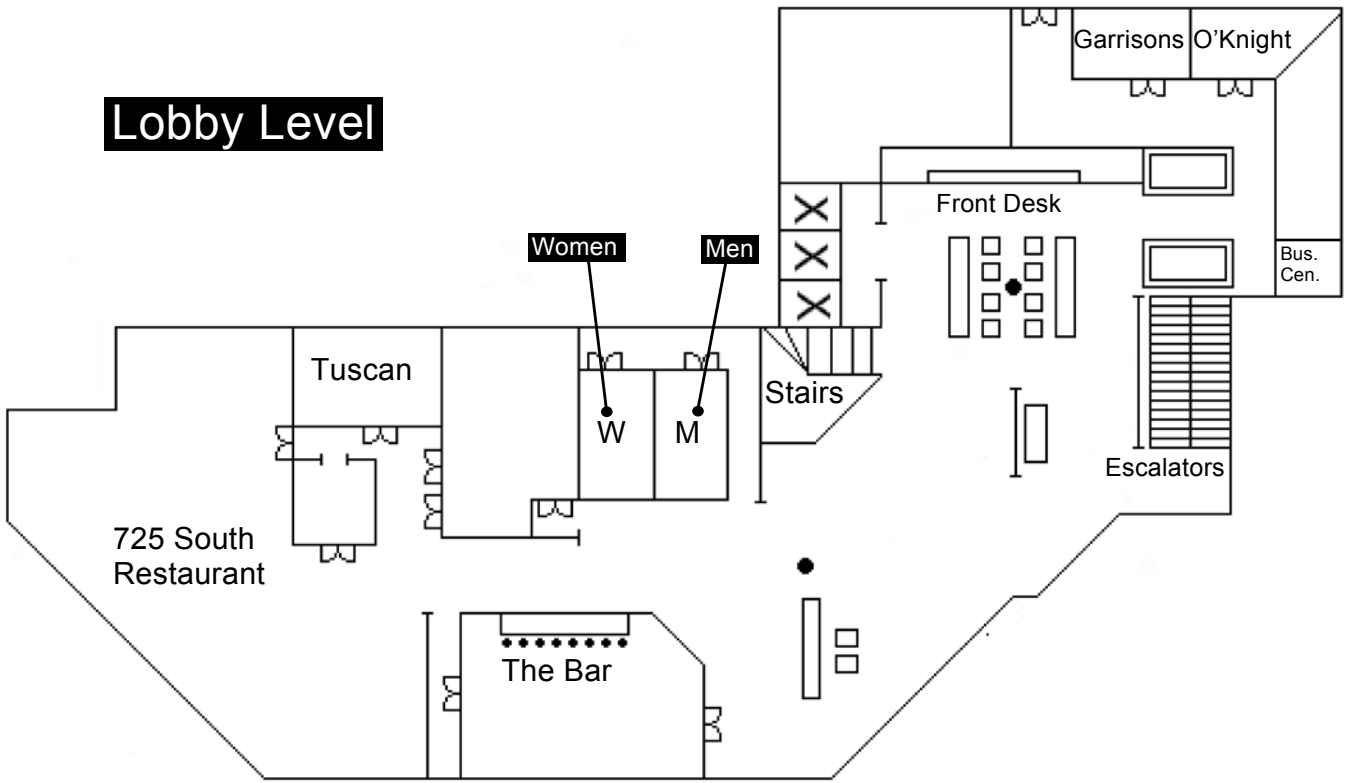
Third Floor



Westin Harbour Island Hotel Floor Plans



Westin Harbour Island Hotel Floor Plans



Where's That Meeting Room?

M = Marriott W = Westin

Room Name	Location
W-BALLROOM 1	1st Floor
W-BALLROOM 2	1st Floor
W-FLETCHER	1st Floor
W-GARDEN FOYER	1st Floor
W-GARRISONS	Lobby Level
W-JACKSON	1st Floor
W-O'KNIGHT	Lobby Level
W-LANCASTER	1st Floor
W-STEELE	1st Floor
W-TERRACE	1st Floor
W-TUSCAN	Lobby Level
W-YBOR	1st Floor

ACI Book Drive

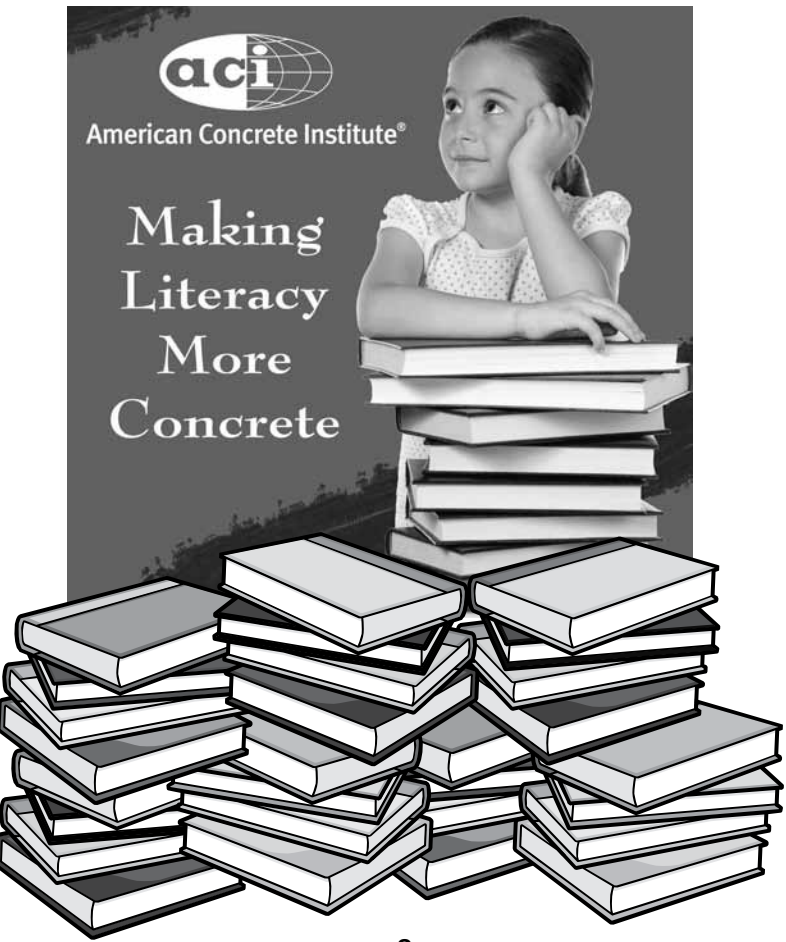
Making Literacy More Concrete!

M-GRAND A-E

Bring a new or gently used book to the convention for children in grades K-12.

Donated books will be given to the Teaching Tools for Hillsborough Schools free teacher supply center. Teaching Tools for Hillsborough Schools ensures that children in Hillsborough County have the basic tools for learning by bringing the community's surplus supplies into the hands of teachers and schoolchildren at no cost to them! Your donation will give teachers and students the opportunity to create a successful learning environment.

Help us reach our goal of 800 books!



Exhibitors

Exhibitor Listing as of 3/2/11

Exhibits **M-GRAND A-E**

The ACI Florida Suncoast Chapter and the American Concrete Institute wish to thank all exhibitors for their participation in and support of the ACI Spring 2011 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 Engineering Testing, Inc. **Booth #22**

American Engineering Testing, Inc. (AET) is a consulting engineering company offering geotechnical, environmental, and construction materials and forensic services. AET is an employee-owned corporation with offices throughout the upper Midwest, Florida, Idaho, and Louisiana that provide national services. Typical services include geotechnical exploration and engineering, construction materials, and concrete and masonry services. For additional information, visit **www.amengtest.com**.

Ardaman & Associates Inc. **Booth #41**

Ardaman provides full-service materials engineering and testing, facilities engineering, forensic studies and geotechnical/geoenvironmental engineering and has offices throughout Florida and Louisiana. Visit **www.ardaman.com** for more information.

Astra Concrete Products **Booth #31**

Astra Concrete Products offers pioneered manufacturing of fiber-reinforced concrete cover blocks (spacers) in India. Scientifically designed by a civil engineer who has over 30 years of experience in the construction field, these cover blocks have accurate dimensions, proper holes for inserting tying wire, and a compressive strength of 50 MPa. They score very high over site-made cover blocks and PVC cover blocks. No hair cracks develop between the spacer and the adjoining concrete, as the coefficient of thermal expansion is the same. These cover blocks form homogeneous bonding with the surrounding concrete, which is not present in the case of PVC spacers. Stop by Astra's booth for additional information.

Exhibitors

Exhibitor Listing as of 3/2/11

Atlantic Supply **Booth #21**
Founded in 1987, Atlantic Supply is a locally owned distributor of concrete, soil, asphalt, and aggregate equipment and supplies. Atlantic Supply has four locations in Florida and one in Alabama. In addition to in-house calibration services, we also offer on-site calibration services throughout the Southeast. Visit **www.atlanticsupply.com** for additional information.

BASF Construction Chemicals, LLC **Booth #27**
BASF's Construction Chemicals Division is a worldwide supplier of chemical systems and formulations for the construction industry. The North American Construction Chemicals Division of BASF comprises four business lines that offer products and solutions primarily for commercial, residential, industrial, and infrastructure construction that improve 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**.

BP Composites LTD **Booth #15**
BP Composites LTD develops and produces glass fiber-reinforced polymer (GFRP) *TUF-BAR*™ reinforcing bar and accessories. *TUF-BAR* reinforcing bar is a stronger, lighter alternative to conventional steel reinforcing bar. It is corrosion resistant and has a life cycle of 100+ years. GFRP products, including *TUF-BAR*, are specified for use in roadways, bridges, marine applications, mining and tunneling applications, and specialized concrete construction. Visit **www.bpcomposites.com** for more information.

Burgess Pigment Company **Booth #34**
Burgess produces OPTIPOZZ highly reactive metakaolin, a white supplementary cementitious material that contributes to strength development and durability in concrete. The use of a small percentage of OPTIPOZZ in a mixture design will decrease ingress of harmful chemicals, improve finishability, reduce efflorescence, mitigate ASR, and assist in shrinkage resistance. For additional information, visit **www.burgesspigment.com**.

Exhibitors

Exhibitor Listing as of 3/2/11

Carolina Stalite Company **Booth #24**
Stalite is a high-performance lightweight aggregate manufactured by expanding slate in a rotary kiln at high temperatures. Lightweight concrete produced using Stalite has reduced density that improves structural efficiency and reduces handling costs for precast elements, enhanced durability, and design compressive strengths of 10,000 psi or more. Visit **www.stalite.com** for more information.

CPI & opus C **Booth #43**
CPI and opus C are international trade journals dedicated to the advancement of the use concrete. CPI focuses on the transfer of information and technology for concrete products worldwide. *Opus C* is an international journal designed to promote the creative use of concrete in architectural and structural applications. Visit **www.cpi-worldwide.com** for additional information.

CMEC, Inc. **Booths #16 & 17**
The Construction Materials Engineering Council, Inc., (CMEC) is a nonprofit 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 U.S., Canada, Honduras, the Dominican Republic, Puerto Rico, and Mexico and distributes its educational materials worldwide. For additional information, go to **www.cmec.org**.

Deslauriers, Inc. **Booth #37**
Established in 1888, Deslauriers provides quality products to the construction industry. Known for its leadership role in providing forms for round columns, shims for the precast and window industry, and testing products for the concrete testing industry, Deslauriers has diversified into other industries, such as safety, custom injection molding, and tool-and-die making. Visit **www.deslinc.com** for additional information.

ElectroTech CP **Booth #20**
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, go to **www.electrotechcp.com**.

Exhibitors

Exhibitor Listing as of 3/2/11

Engineered Restorations, Inc. **Booth #30**
Engineered Restorations, Inc. is a contracting and engineering firm that specializes in architectual and structural repair and rehabilitation of structures of all types, including commercial buildings and parking structures, transit facilities, water treatment facilities, bridges and viaducts, and underground storage facilities. For additional information, please visit **www.er-inc.net**.

ERICO **Booth #18**
ERICO is a leading global designer, manufacturer, and marketer of precision-engineered specialty metal products serving niche markets in a diverse range of electrical, construction, utility, and rail applications. ERICO produces LENTON® reinforcing bar splicing systems and other reinforcing products used to connect steel reinforcement rods in concrete. Visit **www.erico.com** for more information.

The Euclid Chemical Co. **Booth #12**
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, complete specification assistance, and laboratory support. To learn more about The Euclid Chemical Co., visit **www.euclidchemical.com**.

FYFE Co. LLC **Booth #28**
FYFE Company manufactures TYFO® products and FIBRWRAP® Strengthening Systems and is an ISO 9001:2008 registered firm. The FYFE Group, which includes a global network of certified applicators, is a global leader in the use of externally bonded fiber-reinforced polymer (FRP) systems for the strengthening, repair, and restoration of masonry, concrete, steel, and wooden structures. Visit **www.fyfeco.com** for more information.

Exhibitors

Exhibitor Listing as of 3/2/11

Germann Instruments, Inc. **Booths #8 & 9**
Germann Instruments is a leader in nondestructive testing (NDT) of concrete structures and offers a cutting-edge, innovative product line that includes advanced NDT equipment for concrete testing. The company produces Impact-Echo, Mash, and MIRA/Eyecon 3-D Shear Wave Systems for structural integrity; Service Life, Rheometer, PROOVEit, Chloride, and Profile for durability; the EVA Analyzer and RapidAir for freezing and thawing; the LOK-TEST and Coma-Meter for fast-track construction; GalvaPulse and RapiCor for corrosion surveys; and Bond-Test and CorroEye for repair quality. Visit **www.germann.org** for additional information.

Grace Construction Products **Booth #5**
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.

Hayward Baker Inc. **Booth #23**
Hayward Baker Inc. is one of North America's leading geotechnical construction contractors, providing a complete range of geotechnical construction techniques for earth retention, ground improvement, structural support, and grouting. It is ranked the No. 1 Specialty Foundation Contractor by *Engineering News Record* year after year. Visit **www.haywardbaker.com** for additional information.

James Instruments Inc. **Booth #2**
James Instruments Inc. is a manufacturer of the world's most advanced nondestructive test equipment for construction materials. The Windsor Probe for strength determination; the Grecor 8 for corrosion rate analysis; and the R-Meter MK II for reinforcing bar location, cover, and size are some of the quality products on display. Visit **www.ndtjames.com** for more information.

Exhibitors

Exhibitor Listing as of 3/2/11

Kryton International, Inc. **Booth #1**
Kryton International, Inc. develops, manufactures, and markets a wide range of products designed to waterproof, repair, and protect concrete structures. Developed in Kryton's dedicated concrete research laboratory and tested in the field since 1973, the Krystol® Concrete Waterproofing System is a world-leading integral crystalline waterproofing technology. Visit **www.kryton.com** for additional information.

Materials Advanced Services Ltd. **Booth #44**
Materials Advanced Services provides high-standard, innovative products and services to the concrete construction industry. We show live the operation of "PermeaTORR," a nondestructive instrument capable of checking the potential durability of finished structures through the measurement of air permeability in place in up to 6 minutes. Visit **www.m-a-s.com.ar** for additional information.

Meadow Burke Products **Booth #42**
For more than seven decades, Meadow Burke, a division of MMI Products, Inc., has served architects, engineers, and contractors with a superior line of concrete accessories. Meadow Burke is known for quality, reliability, product innovation, dependability, and superb customer service. In fact, many of the nation's largest and most prestigious construction projects use Meadow Burke's products and services. Thousands of items are manufactured and distributed by Meadow Burke throughout the country. Some of these include reinforcing bar supports, reinforcing bar couplers, splice systems, and lifting and handling systems for precast and tilt-up. Bridge deck forming hardware is another large category of products in which Meadow Burke specializes. Additional products include welded-wire girders for composite wall panels and wall forming products. For additional information, visit **www.meadowburke.com**.

Olson Engineering Inc. **Booth #11**
Olson Engineering Inc. 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. Olson also distributes IDS radar systems in the U.S. For additional information, go to **www.olsonengineering.com**.

Exhibitors

Exhibitor Listing as of 3/2/11

Pultrall Inc. **Booth #35**

Pultrall Inc. is an industry-leading manufacturer of the V-ROD® line of fiber-reinforced polymer reinforcing products. Pultrall's Canadian-made product has set the benchmark for performance, quality control, and continuous R&D in developing wider ranges of products and accessories. Aside from being ISO 9001-2000 and ISO/TS 16949 certified, Pultrall is also a "certified" manufacturer according to the FRP Certification Guideline and forthcoming CSA S-807, meeting the highest "60 GPa Grade" with its V-ROD® HM. The company also offers the "40 GPa Grade III" and "50 GPa Grade II" V-ROD®, all meeting the "D1" Durability classification. For additional information, visit **www.pultrall.com**.

QuakeWrap Inc. **Booth #7**

QuakeWrap Inc.'s award-winning FRP technology provides solutions for the repair and strengthening of structures at a fraction of the time and cost of conventional methods. Visit our booth for a demonstration of PileMedic™, which allows structural repair of deteriorated steel, concrete and timber columns, piles and poles in 2 hours! Visit **www.quakewrap.com** for more information.

SAS Stressteel, Inc. **Booth #45**

SAS Stressteel, Inc., provides innovative products and solutions for the construction industry. SAS thread bar sizes from No. 5 to No. 24 in Grades 75/80, 97, and 150 ksi are used in a wide range of applications, such as high-strength reinforcing bars for concrete structures and geotechnical systems. Visit **www.stressteel.com** for more information.

S-Frame Software **Booth #19**

Since 1981, structural engineers worldwide have chosen to use S-Frame®, S-Concrete®, and S-Steel® on the simplest and most complex projects in terms of geometry, material models, loading conditions, analysis, and design requirements because of the products' depth of capabilities, ease-of-use, accuracy, and detailed reports, coupled with the simplicity of the product portfolio and the industry's best customer support. Visit **www.s-frame.com** for more information.

Exhibitors

Exhibitor Listing as of 3/2/11

Sika Corporation **Booth #26**
Sika Corporation, based in Lyndhurst, NJ, is a leading supplier, with more than 100 years of experience in specialty chemical products and industrial materials serving the construction and industrial markets. Sika's product lines include concrete admixtures, specialty mortars, epoxies, structural strengthening systems, waterproofing, roofing systems, industrial flooring, sealants, adhesives, and specialty acoustic and reinforcing materials. We are committed to customer satisfaction, innovation, and teamwork. Visit **www.sikausa.com** for more information.

Silica Fume Association **Booth #10**
The Silica Fume Association provides high-performance concrete information to the construction industry, a valuable material for today's sustainable concrete mixtures. Learn more about the Silica Fume Association by going to **www.silicafume.org**.

SIMCO Technologies, Inc. **Booth #13**
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 the vested parties in developing safe, sustainable, and cost-effective concrete structures. For more information, visit **www.simcotechnologies.com**.

Somero Matson Group, LLC **Booth #32**
Somero Matson Group, LLC, is the U.S. distributor of the SD Joint Saver, which is used for stabilizing concrete floors at joints and cracks. Visit **www.someromatsongroup.com** for additional information.

Superior Gunite **Booth #29**
Superior Gunite has been in the gunite/shotcrete industry for over 50 years. They began with the very first pier repairs in the 1940s, and continue to develop and improve structural shotcrete. Superior Gunite consistently continues to meet the demanding challenges faced in construction today to remain the leader in the shotcrete marketplace with top-quality work and on-time completion. In an industry where there is no substitute for experience, our company has an outstanding record. Visit **www.shotcrete.com** for additional information.

Exhibitors

Exhibitor Listing as of 3/2/11

Taylor & Francis Group **Booth #6**
CRC Press & Routledge—Taylor & Francis Group are premier publishers of books, journals, and electronic databases in the field of civil and structural engineering. We invite you to peruse our latest offerings, pick up a free sample journal, and take advantage of special show discounts ranging from 15 to 50%. Visit **www.taylorandfrancis.com** for more information.

Tekla **Booth #33**
Tekla Structures is a Building Information Modeling (BIM) solution for concrete contractors, reinforcing bar detailers, and structural engineers where all construction details are stored in one central 3-D model. Details include concrete volumes, reinforcing bar shapes and quantities, and more. QTOs, lift, reinforcing bar, or formwork drawings are all generated from the model. For additional information, please visit **www.tekla.com**.

Tierra, Inc. **Booth #39**
Tierra, Inc. is a full-service consulting geotechnical, environmental, and constructional materials testing firm that provides drilling, laboratory testing, inspection, asbestos and LBP surveys, engineering analysis, and reporting. For additional information, visit **www.tierraeng.com**.

Tilt-Up Design Systems **Booth #36**
Tilt-Up Design Systems offers integrated project design and construction technology solutions for the tilt-up concrete industry. Tilt-Werks, our software application, is available to subscribers 24/7 as a service. Visit our booth for a demonstration of how Tilt-Werks can save time and money on your next tilt-up project. Visit **www.tilt-werks.com** for more information.

Titan America/Separation Technologies/Tarmac **Booth #s 3&4**
As Titan America's Florida businesses, we aim to reintroduce ourselves and our products, innovations, and Gray-to-Green business philosophies to the Sunshine State. We welcome all discussion and hope to see many of our friends and colleagues. For additional information, visit **www.titanamerica.com**.

Exhibitors

Exhibitor Listing as of 3/2/11

Universal Engineering Sciences, Inc. **Booth #14**
Universal Engineering Sciences, Inc., is a consulting engineering firm specializing in geotechnical engineering, hydrologic/geophysical, environmental sciences, construction materials testing, and threshold inspection. Universal is a growing, competitive firm with a strong position and reputation in our industry. We are a dynamic firm that is always looking for ways to provide enhanced services. With this in mind, we began offering private provider inspection (PPI) and plan review in 2003 and added in-house geophysical engineering and surveys to our already wide range of construction-related services. Visit **www.universalengineering.com** for additional information.

Vector Corrosion Technologies **Booth #40**
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 #25**
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 #38**
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. Ytterberg has developed revolutionary tolerance instruments that have become world-famous and ensure that you effectively supply the best reports on the market today. Stop by our booth to see the instruments and how they work! For more information, please visit **www.flatfloors.com**.

Daily Program

All schedule and location changes will be posted daily in M-GRAND A-E.

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

M = Marriott W = Westin

Friday, April 1, 2011

6:30 PM - 9:00 PM

TAC	Technical Activities M1	M-MEETING ROOM 1

Saturday, April 2, 2011

7:00 AM - 6:00 PM

TAC	Technical Activities M2	M-MEETING ROOM 1
	Speaker Ready Room	M-OFFICE 1 & 2

8:00 AM - 2:00 PM

	FRPRCS-10 Registration	M-MEETING ROOM 5

9:00 AM - 12:00 PM *Sessions*

	FRPRCS-10: FRP Strengthening of Reinforced Concrete Columns	M-MEETING ROOM 5
	FRPRCS-10: Internal FRP Reinforced Concrete Structures	M-MEETING ROOM 4

9:00 AM - 6:00 PM

347	Formwork M1	M-MEETING ROOM 13

10:00 AM - 12:00 PM

562-D	Eval, Repair & Rehab - Structural Repair Design M1	M-MEETING ROOM 11

1:00 PM - 4:00 PM

562-D	Eval, Repair & Rehab - Structural Repair Design M2	M-MEETING ROOM 11

1:00 PM - 5:00 PM

EAC	Educational Activities M1	M-SUITE 1001

1:00 PM - 6:00 PM

562-F	Eval, Repair & Rehab - General	M-MEETING ROOM 7

2:00 PM - 5:00 PM

	Afternoon Break	M-GRAND A-E

Daily Program

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Saturday, April 2, 2011 (cont.)

2:00 PM - 5:00 PM *Sessions*

FRPRCS-10: Bond of FRP to Concrete Systems — **M-MEETING ROOM 5**

FRPRCS-10: Characterization of FRP Materials and Systems — **M-MEETING ROOM 4**

2:00 PM - 6:00 PM

ACI Registration & Bookstore — **M-GRAND A-E**

3:00 PM - 5:00 PM

376 RLG Containment Structures M1 — **M-MEETING ROOM 12**

4:00 PM - 6:00 PM

562-A Eval, Repair & Rehab - Life Safety — **M-MEETING ROOM 11**

562-C Eval, Repair & Rehab - Structural Analysis M1 — **M-SUITE 1101**

6:00 PM - 7:00 PM

✓FRPRCS-10 Symposium Reception — **M-FLORIDA BALLROOM FOYER**

6:00 PM - 9:00 PM

562-E Eval, Repair & Rehab - Durability Qlty Assurance — **M-MEETING ROOM 1**

7:00 PM - 9:00 PM

347-A Formwork - Specification — **M-MEETING ROOM 11**

562-C Eval, Repair & Rehab - Structural Analysis M2 — **M-SUITE 1101**

Sunday, April 3, 2011

7:00 AM - 8:30 AM

301-SC Spec - Steering Committee — **M-SUITE 1001**

7:00 AM - 10:00 AM

★ Guest Hospitality — **M-IL TERRAZZO RESTAURANT**

Coffee & pastries (courtesy of S&ME) — **M-GRAND A-E**

7:00 AM - 2:00 PM

TAC Technical Activities M3 — **M-MEETING ROOM 6**

Daily Program

All schedule and location changes will be posted daily in M-GRAND A-E.

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M = Marriott W = Westin

Sunday, April 3, 2011 (cont.)

7:00 AM - 7:00 PM

	Speaker Ready Room	M-OFFICE 1&2

7:30 AM - 5:00 PM

	ACI Registration	M-GRAND A-E

8:00 AM - 8:30 AM

408-A	Mech Splices and Headed Bars	M-SALON 6

8:00 AM - 9:00 AM

	Convention #1 Breakfast	M-MEETING ROOMS 9&10
	★ Guest Overview	M-IL TERRAZZO RESTAURANT

8:00 AM - 9:30 AM

341-C	Equake Res Brdgs - Retrofit	M-CAFÉ WATERSIDE PRIVATE ROOM

8:00 AM - 10:00 AM

E706	Repair Application Procedures	W-JACKSON
S801	Student Activities	M-MEETING ROOM 8

8:00 AM - 10:30 AM

CLC	Construction Liaison	W-LANCASTER

8:00 AM - 11:00 AM

TAC-RG1	TAC Review Group 1	M-SUITE 401
TAC-RG2	TAC Review Group 2	M-SUITE 501
TAC-RG3	TAC Review Group 3	M-SUITE 601
TAC-RG4	TAC Review Group 4	M-SUITE 701
445-B	Shear & Torsn - Seismic Shear	W-TUSCAN

8:00 AM - 12:00 PM

562-B	Eval, Repair & Rehab - Loads	W-YBOR

8:00 AM - 5:00 PM

	ACI Bookstore & Exhibits	M-GRAND A-E

8:30 AM - 9:30 AM

546-B	Repair - Material Selection Guide	W-O'KNIGHT

8:30 AM - 10:00 AM

342	Bridge Evaluation	M-SALON 6

Daily Program

All schedule and location changes will be posted daily in M-GRAND A-E.

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M = Marriott W = Westin

Sunday, April 3, 2011 (cont.)

8:30 AM - 10:30 AM

549-A Glass Fiber-Reinforced Concrete - Spray-Up **W-STEELE**

8:30 AM - 11:30 AM

MEMC Membership **M-MEETING ROOM 13**

314 Simplified Design Buildings **M-MEETING ROOM 12**

315-B Detailing - Constructibility **M-SALON 1**

350-C Env Str - Reinf & Devel **M-SUITE 1001**

408 Development and Splicing **M-MEETING ROOM 7**

8:30 AM - 12:00 PM

301 Specifications M1 **W-BALLROOM 1**

8:30 AM - 12:30 PM

347 Formwork M2 **W-BALLROOM 2**

9:00 AM - 11:00 AM

506-A Shotcreting - Evaluation **W-FLETCHER**

9:00 AM - 12:00 PM *Sessions*

FRPRCS-10: Emerging FRP-Concrete Systems **M-MEETING ROOM 4**

FRPRCS-10: FRP Shear Strengthening of RC Beams **M-MEETING ROOM 5**

9:00 AM - 12:00 PM

551 Tilt-Up **M-SALON 3**

9:00 AM - 2:00 PM

✓Neighborhoods of Tampa Bay **DEPART MARRIOTT LOBBY**

9:00 AM - 5:00 PM

376 RLG Containment Structures M2 **M-MEETING ROOM 11**

9:30 AM - 11:00 AM

341-D Perf Based Seismic Design **M-CAFÉ WATERSIDE PRIVATE ROOM**

10:00 AM - 11:30 AM

E701 Materials for Concrete Construction **M-IL TERRAZZO PRIVATE ROOM**

Daily Program

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Sunday, April 3, 2011 (cont.)

10:00 AM - 12:00 PM

IC-Part	International Partnerships & Publications	M-SALON 6
546-C	Repair - Guide	M-SALON 2

10:00 AM - 12:30 PM

228	Nondestructive Testing	M-MEETING ROOMS 9&10

10:00 AM - 1:00 PM

421	Reinf Slabs	M-MEETING ROOM 8

10:00 AM - 4:00 PM

	★Guest Lounge	M-IL TERRAZZO FOYER

10:30 AM - 12:30 PM

549	Thin Reinforced	W-O'KNIGHT

10:30 AM - 1:00 PM

370	Dynamic & Vibratory Effects	W-GARRISONS

10:30 AM - 1:30 PM

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

11:00 AM - 12:00 PM

343-A	Design	M-SUITE 701

11:00 AM - 12:30 PM

341-A	Equake Res Brdgs - Columns	M-CAFÉ WATERSIDE PRIVATE ROOM

11:00 AM - 1:00 PM

506-G	Qualifications for Projects	M-SUITE 401

11:00 AM - 5:00 PM

	Student FRP Composites and Concrete Construction Competitions	M-GRAND FOYER

11:30 AM - 1:00 PM

HTC	Hot Topic	W-TUSCAN
221	Aggregates	M-MEETING ROOM 13
335	Composite Hybrid	M-IL TERRAZZO PRIVATE ROOM
350-SC	Env Str - Steering Comm	M-SUITE 501
374-TG	Protocol for Testing RC Structural Elements	M-SUITE 1001
441-E	Columns Multi-Spiral Reinf	W-JACKSON

Daily Program

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Sunday, April 3, 2011 (cont.)

11:30 AM - 1:30 PM

	Lunch Concession	M-GRAND A-E

12:00 PM - 2:00 PM

	✓International Lunch	M-IL TERRAZZO RESTAURANT
440-H	FRP - Reinforced Concrete	W-BALLROOM 1

12:00 PM - 3:00 PM

	Afternoon Break	M-GRAND A-E

12:30 PM - 2:00 PM

130-F	Social Issues	M-SALON 1
445-E	Shear & Torsn - SOA Torsion	W-YBOR

12:30 PM - 3:30 PM

301-H	Spec - Tilt-Up Constr & Arch Conc	M-SUITE 701

12:30 PM - 4:30 PM

301-B	Spec - Formwork & Reinforcement	M-SUITE 601

1:00 PM - 2:30 PM

369	Seismic Rehab M1	W-LANCASTER
533	Precast Panels	M-MEETING ROOM 7

1:00 PM - 3:00 PM

301-F	Spec - Precast Concrete Panels	W-JACKSON
445-C	Shear & Torsn - Punching Shear	W-TUSCAN

1:00 PM - 4:00 PM

423-E	Prestress Losses	M-SALON 6

1:00 PM - 5:00 PM

301-C	Spec - Placing Consolidating & Curing	W-FLETCHER
301-D	Spec - Lightweight & Massive Concrete	M-SUITE 1101
301-G	Spec - Shrink Comp Conc & Ind Floor Slabs	M-SUITE 401
336	Footings	M-SUITE 1001
350-E	Env Str - Precast/Prestressed	M-SUITE 501
355	Anchorage	M-MEETING ROOMS 9&10
562	Eval, Repair & Rehab	W-O'KNIGHT

1:30 PM - 3:00 PM

341-B	Equake Res Brdgs - Pier Walls	M-CAFÉ WATERSIDE PRIVATE ROOM

Daily Program

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Sunday, April 3, 2011 (cont.)

1:30 PM - 3:30 PM

345	Bridge Construction	W-STEELE

2:00 PM - 3:00 PM

506-B	Shotcreting - Fiber Reinforced	M-SALON 1

2:00 PM - 3:30 PM

C650	Tilt-Up Constructor Cert	M-IL TERRAZZO PRIVATE ROOM
236-B	Material Science - Transport Mechanisms	M-MEETING ROOM 13

2:00 PM - 4:00 PM

215	Fatigue	W-YBOR
305	Hot Weather	M-MEETING ROOM 8

2:00 PM - 5:00 PM *Sessions*

	FRPRCS-10: Fatigue Performance and Anchorage of FRP Systems	M-MEETING ROOM 4
	FRPRCS-10: Strengthening of Masonry Structures	M-MEETING ROOM 5
	Getting to the Core of Core Testing	M-SALON 5
	Practical Design of Concrete Buildings	M-SALON 4
	Precast Concrete Subjected to Blast and Impact Loads	M-MEETING ROOM 1

2:00 PM - 5:00 PM

RCC	Responsibility	M-MEETING ROOM 6
309	Consolidation	M-SALON 3
315	Detailing M1	W-GARRISONS
352	Joints	W-BALLROOM 2

2:30 PM - 5:00 PM

224	Cracking	W-LANCASTER

Daily Program

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Sunday, April 3, 2011 (cont.)

3:00 PM - 5:00 PM

121	Quality Assurance	M-SALON 1
301-E	Spec - Prestressed Concrete	W-JACKSON
341	Earthquake-Resistant Bridges	W-BALLROOM 1
351-C	Equipment Foundations - Dynamic Foundations	M-MEETING ROOM 7
423/445	Adhoc Grp on Shear in Prestress Conc	W-TUSCAN
550	Precast Structures	M-CAFÉ WATERSIDE PRIVATE ROOM

3:30 PM - 5:00 PM

Intl-Cert	International Certification	M-SUITE 701
201-A	Durability - Sulfate Attack	M-MEETING ROOM 12
236-D	Material Science - Nanotechnology of Concrete M1	M-IL TERRAZZO PRIVATE ROOM
439-A	Steel Reinforcement - Wire	W-STEELE

4:00 PM - 5:00 PM

S805	Collegiate Concrete Council	M-SALON 6
123	Research	M-MEETING ROOM 8

5:15 PM - 6:30 PM

Opening Session & Awards Program — M-GRAND F-J

6:30 PM - 7:30 PM

Opening Reception — M-PATIO/RIVERWALK

7:30 PM - 10:00 PM *Sessions*

123 Forum: What is the Current State of Epoxy-Coated Reinforcing Steel? — M-MEETING ROOM 1

Hot Topic Session: Concrete Houses—Perfect Solution for Durable Residences — M-SALON 5

9:00 PM - 10:30 PM

Student and Young Professional Networking Event — M-CHAMPIONS RESTAURANT

Monday, April 4, 2011

6:30 AM - 8:15 AM

Workshop for Technical Committee Chairs — M-GRAND F

7:00 AM - 8:30 AM

Speaker Development Breakfast — M-GRAND G&H

Daily Program

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Monday, April 4, 2011 (cont.)

7:00 AM - 10:00 AM

	★ Guest Hospitality	M-IL TERRAZZO RESTAURANT
	Coffee & pastries (courtesy of Headwaters Resources)	M-GRAND A-E

7:00 AM - 6:00 PM

	Speaker Ready Room	M-OFFICE 1&2

7:15 AM - 8:30 AM

IC-Conf	International Conferences	W-TUSCAN

8:00 AM - 8:30 AM

	Convention #1 Meeting Spot	M-GRAND A-E

8:00 AM - 5:00 PM

	ACI Registration, Bookstore, & Exhibits	M-GRAND A-E

8:15 AM - 9:00 AM

343-B	Bridge Deck Design	M-MEETING ROOM 7

8:15 AM - 10:00 AM

351-B	Grtng Fndns - Equip Machnry	W-STEELE
440-G	FRP - Student	M-MEETING ROOM 13

8:15 AM - 11:00 AM

237	Self-Consolidating Concrete	M-GRAND I&J

8:30 AM - 10:00 AM

S802	Teaching Methods and Educational Materials	W-JACKSON
118	Computers	M-SUITE 1001
122	Thermal Properties	M-MEETING ROOM 11
130-A	Materials	W-BALLROOM 2
311	Inspection	M-SUITE 601
439	Steel Reinforcement	M-MEETING ROOM 10
524	Plastering	M-SALON 2
544-B	FRC - Education	M-MEETING ROOM 12

8:30 AM - 10:30 AM

PUBC	Publications	W-GARRISONS
355-TG	Anchorage TG	M-SUITE 701
506-E	Shotcreting - Specifications	M-CAFÉ WATERSIDE PRIVATE ROOM
546	Repair	M-SALON 6
548-A	Polymers - Overlays	M-SUITE 401

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Monday, April 4, 2011 (cont.)

8:30 AM - 11:00 AM

C610	Field Technician Cert	M-MEETING ROOM 9

8:30 AM - 11:30 AM

209	Creep & Shrinkage	M-MEETING ROOM 6
543	Piles	W-TUSCAN

8:30 AM - 12:00 PM

301-A	Spec - Gen Req, Definitions & Tolerances	M-SUITE 1101
362-A	Parking Str - Standard	M-SUITE 501

8:30 AM - 12:30 PM

374	Seismic Design	M-MEETING ROOM 8
423	Prestressed	W-O'KNIGHT

8:30 AM - 1:00 PM

302	Floor Construction	W-BALLROOM 1
350-B	Env Str - Durability	W-YBOR

8:30 AM - 5:00 PM

313	Bins & Silos	W-FLETCHER

8:30 AM - 6:30 PM

350-D	Env Str - Structural	M-IL TERRAZZO PRIVATE ROOM

9:00 AM – 11:00 AM

365	Service Life M1	M-SALON 3

9:00 AM - 12:00 PM *Sessions*

Florida Concrete, Part 1	M-SALON 5
FRPRCS-10: Applications of FRP Systems in Reinforced Concrete	M-MEETING ROOM 4
FRPRCS-10: Performance of FRP Systems Subject to Extreme Events	M-MEETING ROOM 5
Performance-Based Specifications and Testing, Part 1	M-SALON 4
Research in Progress	M-MEETING ROOM 1

Daily Program

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Monday, April 4, 2011 (cont.)

9:00 AM - 12:00 PM

349-A&B Nuclear Structures - Design & Materials **M-GRAND G&H**

9:00 AM - 3:00 PM

✓Explore Downtown St. Petersburg **DEPART MARRIOTT LOBBY**

9:00 AM - 5:00 PM

376-TG RLG Containment Structures - TG M1 **M-MEETING ROOM 7**

10:00 AM - 11:00 AM

130-B Production/Transport/Construction **M-SALON 1**

10:00 AM - 11:30 AM

ACI/NACE ACI/NACE Coordination **M-SUITE 601**

10:00 AM - 12:00 PM

351-D Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures **W-JACKSON**

445-D Shear & Torsn - Database **M-SUITE 1001**

10:00 AM - 1:00 PM

207 Mass Concrete **W-STEELE**

216 Fire Resistance **M-MEETING ROOM 12**

232-A Fly Ash - Use of Nat Pozzolans **M-MEETING ROOM 13**

318-D Flexure & Axial Loads M1 **M-MEETING ROOM 11**

318-E Shear & Torsion M1 **M-SALON 2**

343 Bridge Design **M-MEETING ROOM 10**

10:00 AM - 4:00 PM

★Guest Lounge **M-IL TERRAZZO FOYER**

10:30 AM - 12:00 PM

124 Aesthetics **W-GARRISONS**

10:30 AM - 12:30 PM

437 Strength Evaluation **M-SALON 6**

506-C Shotcreting - Guide **M-CAFÉ WATERSIDE PRIVATE ROOM**

548-C Structural Polymer Design **M-SUITE 401**

Daily Program

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Monday, April 4, 2011 (cont.)

11:00 AM - 12:00 PM

364-TG1	Rehabilitation Guide	M-SUITE 701

11:00 AM - 1:00 PM

130-E	Design/Specifications/Codes/ Regulations	M-MEETING ROOM 9

11:00 AM - 1:30 PM

447	Finite Element Analysis	M-GRAND I&J

11:30 AM - 1:00 PM

C601-A	Adhesive Anchor Installer	M-SALON 1
201-D	Durability - Oversight Committee	M-SUITE 601
304	Measuring/Mix/Trans/Placing	M-SALON 3
346	CIP Pipe	W-TUSCAN
544-A	FRC - Production & Applications	W-BALLROOM 2

11:30 AM - 1:30 PM

	Lunch Concession	M-GRAND A-E

11:30 AM - 2:00 PM

441	Columns	M-MEETING ROOM 6

12:00 PM - 2:00 PM

	✓Student Lunch	M-GRAND F
440-L	FRP - Durability	M-GRAND G&H

12:00 PM - 3:00 PM

	Afternoon Break	M-GRAND A-E

12:30 PM - 2:00 PM

350-H	Env Str - Editorial	M-SUITE 1101

1:00 PM - 2:00 PM

	Chapter Forum	W-STEELE
214	Strength Tests M1	W-TUSCAN

1:00 PM - 2:30 PM

C631	Conc Transportation Const Insp	M-SUITE 1001
ISO/TC 71	ISO/TC 71 Advisory Cmte	M-MEETING ROOM 13

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Monday, April 4, 2011 (cont.)

1:00 PM - 3:00 PM

C660	Shotcrete Nozzleman Cert	M-SUITE 601
228-A	NDT Technician Certification	M-SUITE 701
364	Rehabilitation	W-BALLROOM 2

1:00 PM - 3:30 PM

375	Design for Wind Loads	W-JACKSON

1:00 PM - 4:00 PM

225	Hydraulic Cements	M-SALON 2
232	Fly Ash & Natural Pozzolans	M-SALON 6

1:00 PM - 5:00 PM

301	Specifications M2	W-O'KNIGHT
362	Parking Structures	M-MEETING ROOM 8

1:30 PM - 3:30 PM

548-B	Adhesives in Concrete	W-YBOR

2:00 PM - 3:30 PM

231	Early Age	M-SALON 1
318-G	Prestressed Precast M1	M-MEETING ROOM 12
318-S	Spanish Translation	M-MEETING ROOM 11
544-E	FRC - Mechanical Properties	W-TUSCAN

2:00 PM - 4:00 PM

365	Service Life M2	M-SALON 3

2:00 PM - 4:30 PM

349-C	Nuclear Structures - Anchorage	M-GRAND I&J

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Monday, April 4, 2011 (cont.)

2:00 PM - 5:00 PM *Sessions*

	Bridge Survivability under Extreme Multi-Hazard Loading	M-SALON 4
	Florida Concrete, Part 2	M-SALON 5
	FRPRCS-10: Durability of FRP Systems	M-MEETING ROOM 4
	FRPRCS-10: FRP Strengthening of Concrete Structures	M-MEETING ROOM 5
	Performance-Based Requirements for Concrete and Sustainability, Part 1	M-MEETING ROOM 1

2:00 PM - 5:00 PM

CAC	Chapter Activities	W-STEELE
MKTC	Marketing	M-CAFÉ WATERSIDE PRIVATE ROOM
130	Sustainability M1	W-BALLROOM 1
212	Chemical Admixtures	W-GARRISONS
307	Chimneys	M-SUITE 401
318-B	Reinforcement & Development M1	M-MEETING ROOM 9

2:00 PM - 6:00 PM

369	Seismic Rehab M2	M-MEETING ROOM 6
445	Shear & Torsion	M-MEETING ROOM 10

2:00 PM - 6:30 PM

360	Slabs on Ground	M-GRAND G&H

2:30 PM - 4:30 PM

351	Equip Foundations	M-MEETING ROOM 13

3:00 PM - 4:00 PM

314/TAC	314-TAC Review Group	M-SUITE 501
506-F	Shotcreting - Underground	W-LANCASTER

3:00 PM - 5:00 PM

373	Prestressed/Tendons	M-SUITE 701

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Monday, April 4, 2011 (cont.)

3:30 PM - 5:00 PM

	★Guest Social	W-TERRACE
211-P	Guide for Selecting Proportions for Pumpable Concrete	W-YBOR
214	Strength Tests M2	M-MEETING ROOM 12
318-L	International Liaison	M-SUITE 1001
446	Fracture Mechanics	M-MEETING ROOM 11

3:30 PM - 6:00 PM

544-D	FRC - Structural Uses	W-BALLROOM 2

3:30 PM - 6:30 PM

350-J	Env Str - Education	M-SUITE 1101
435	Deflection	M-SALON 1

4:00 PM - 6:00 PM

201-E	Salt Weathering/Salt Attack	W-JACKSON
318-C	Serviceability/Safety M1	M-SALON 6

4:30 PM - 5:30 PM

236	Material Science	M-GRAND I&J

5:00 PM - 6:00 PM

	Women in ACI Reception	W-GARDEN FOYER
334	Shells	M-SUITE 1001

5:00 PM - 6:30 PM

E702	Designing Concrete Structures	M-MEETING ROOM 7
555	Recycled	W-STEELE

5:00 PM - 7:00 PM

E703	Concrete Construction Practices	W-YBOR

6:00 PM – 8:00 PM

	Korean Concrete Institute Dinner – *Invitation Only*	W-O'KNIGHT

8:00 PM - 10:00 PM

	Chapter Officer Networking Event	M-CHAMPIONS RESTAURANT

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Tuesday, April 5, 2011

7:00 AM - 8:30 AM

TRRC	TAC Repair & Rehab	M-GRAND H
TTAG	Technology Transfer Advisory Group	M-MEETING ROOM 6

7:00 AM - 10:00 AM

	★ Guest Hospitality	M-IL TERRAZZO RESTAURANT
	Coffee & pastries (courtesy of Dansco Engineering, LLC)	M-GRAND A-E
*fib*TG9.3	FRP Reinforcement for Concrete Structures M1	W-STEELE

7:00 AM - 6:00 PM

	Speaker Ready Room	M-OFFICE 1&2

7:30 AM - 9:00 AM

130-G	Education/Certification	M-SALON 3

8:00 AM - 8:30 AM

	Convention #1 Meeting Spot	M-GRAND A-E

8:00 AM - 9:00 AM

IJBRC	Intl Joints & Bearings Research	M-MEETING ROOM 12
563-C	Excavation/Surface Preparation	M-SUITE 1001
563-F	Concrete Mixtures	M-SUITE 601
563-I	Proprietary Grouts/Concrete	M-SUITE 401
563-K	External Reinforcement	M-SUITE 501
563-L	Prestressed Concrete	M-SUITE 1101
563-M	Polymer Concrete/Overlays	M-SUITE 701

8:00 AM - 10:00 AM

211-C	Proportioning - No Slump	W-FLETCHER
230	Soil Cement	M-SALON 2
440-K	FRP - Material Characteristics	W-BALLROOM 1
444	Experimental Analysis	M-CAFÉ WATERSIDE PRIVATE ROOM

8:00 AM - 10:30 AM

325-A	Pavements - Design	W-YBOR
332-D&E	Residential Concrete D&E	M-MEETING ROOM 13
332-F	Residential Concrete - Slabs	M-MEETING ROOM 9

8:00 AM - 12:00 PM

EAC	Educational Activities M2	W-JACKSON

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Tuesday, April 5, 2011 (cont.)

8:00 AM - 12:30 PM

318-B	Reinforcement & Development M2	M-GRAND J
318-D	Flexure & Axial Loads M2	M-MEETING ROOM 8
318-E	Shear & Torsion M2	M-MEETING ROOM 10
318-G	Prestressed Precast M2	M-GRAND G

8:00 AM - 5:00 PM

	ACI Registration, Bookstore, & Exhibits	M-GRAND A-E

8:30 AM - 10:00 AM

C620	Laboratory Tech Cert	M-GRAND I
238	Workability of Fresh Concrete	W-LANCASTER
523-A	Cellular - Autoclaved Aerated	M-MEETING ROOM 6

8:30 AM - 10:30 AM

357	Offshore & Marine	W-TUSCAN
522	Pervious Concrete	W-BALLROOM 2
560	Design & Constr ICFs	M-MEETING ROOM 7

8:30 AM - 11:00 AM

201	Durability	M-GRAND F

8:30 AM - 11:30 AM

117	Tolerances	M-GRAND H
306	Cold Weather	W-GARRISONS
506	Shotcreting	W-O'KNIGHT
548	Polymers	M-MEETING ROOM 11

8:30 AM - 3:30 PM

350-F	Env Str - Seismic	M-IL TERRAZZO PRIVATE ROOM

9:00 AM - 10:00 AM

SCO	Scholarship Council M2	M-SALON 1
563-G	Placing/Curing	M-SUITE 701
563-H	Architectural/Precast Concrete	M-SUITE 501
563-J	Crack Repair	M-SUITE 401
563-N	Protection Systems	M-SUITE 601
563-P	Corrosion	M-SUITE 1001

9:00 AM - 11:30 AM

IC	International Committee	M-SALON 3

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Tuesday, April 5, 2011 (cont.)

9:00 AM - 12:00 PM *Sessions*

	Economics of SCC	M-SALON 4
	New Developments in Chemical Admixtures: An ACI Committee 212 Update	M-MEETING ROOM 5
	Performance-Based Requirements for Concrete and Sustainability, Part 2	M-MEETING ROOM 1
	Shells—They're Not Just for Turtles	M-SALON 5
	Silica Fume Concrete in Practice—Recent Case Histories	M-MEETING ROOM 4

9:00 AM - 5:00 PM

376-TG	RLG Containment Structures - TG M2	M-MEETING ROOM 12

9:30 AM - 2:00 PM

	✓Strolling in Ybor	DEPART MARRIOTT LOBBY

10:00 AM - 11:00 AM

130-C	Structures in Service	M-GRAND I

10:00 AM - 11:30 AM

C630	Construction Inspector Cert	M-CAFÉ WATERSIDE PRIVATE ROOM

10:00 AM - 12:00 PM

211-A	Proportioning - Editorial	W-STEELE
327	RCC Pavements	W-LANCASTER
348	Safety	M-SALON 1
440-F	FRP - Repair Strengthening	W-BALLROOM 1

10:00 AM - 1:00 PM

523	Cellular Concrete	M-MEETING ROOM 6

10:00 AM - 4:00 PM

	★Guest Lounge	M-IL TERRAZZO FOYER

10:30 AM - 12:00 PM

325-C	Pavements - Prestressed and Precast	W-YBOR
332-B	Conc Mtrls and Plcmnt	M-MEETING ROOM 13
515	Protective Systems	M-MEETING ROOM 9
544-F	FRC - Durability	W-BALLROOM 2

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Tuesday, April 5, 2011 (cont.)

10:30 AM - 1:00 PM

*fib*TG9.3	FRP Reinforcement for Concrete Structures M2	M-MEETING ROOM 7

11:00 AM - 12:30 PM

371	Elevated Tanks with Concrete Pedestals	M-SUITE 401

11:00 AM - 1:00 PM

CRC	Concrete Research Council	M-GRAND I
130	Sustainability M2	M-GRAND F

11:30 AM - 12:30 PM

236-TG2	Sustainability Engineered by Material Science	M-GRAND H

11:30 AM - 1:00 PM

E707	Specification Education	M-MEETING ROOM 11
211-E	Proportioning - Evaluation	W-FLETCHER
213-TG1	Lightweight - Editorial TG	W-TUSCAN
223-D	Shr Compensating - Non-Reinforced Concrete or Mortar	W-GARRISONS

11:30 AM - 1:30 PM

	Lunch Concession	M-GRAND A-E

11:30 AM - 2:00 PM

552	Cementitious Grouting	M-SALON 3

11:30 AM - 5:00 PM

350-A	Env Str - General & Concrete	M-SUITE 501

12:00 PM - 2:00 PM

	✓Contractors' Day Lunch	M-SALON 6

12:00 PM - 3:00 PM

	Afternoon Break	M-GRAND A-E

12:30 PM - 3:30 PM

C640	Craftsman Cert	M-CAFÉ WATERSIDE PRIVATE ROOM

1:00 PM - 2:00 PM

223-C	Shr Compensating - Constr	W-GARRISONS
325-D	Proportioning for Pavements	M-SUITE 401

Daily Program

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M = Marriott W = Westin

Tuesday, April 5, 2011 (cont.)

1:00 PM - 3:00 PM

201-C	Durability - Condition Report	W-TUSCAN
211-I	Assessing Aggregate Gradation	W-FLETCHER
236-D	Material Science - Nanotechnology of Concrete M2	M-GRAND J

1:00 PM - 5:00 PM

349	Nuclear Structures	W-BALLROOM 1
440	Fiber-Reinforced Polymer	M-GRAND F
563	Specs for Repair of Struct Conc in Bldgs	M-MEETING ROOM 10

1:30 PM - 3:00 PM

120	History	W-STEELE

1:30 PM - 3:30 PM

213	Lightweight	M-GRAND G

1:30 PM - 4:30 PM

332	Residential Concrete	W-BALLROOM 2

1:30 PM - 6:00 PM

318-A	General Concrete Constr	M-MEETING ROOM 13
318-C	Serviceability/Safety M2	M-MEETING ROOM 7
318-H	Seismic Provisions	M-GRAND I
318-R	Code Reorganization	M-SALON 1

2:00 PM - 3:30 PM

234	Silica Fume	M-MEETING ROOM 11
325-E	Accelerated Paving	M-SUITE 401
544-C	FRC - Testing	W-O'KNIGHT

2:00 PM - 4:00 PM

130-D	Rating Systems/Sustainability Tools	M-GRAND H
211-F	Proportioning - Submittals	W-YBOR

Daily Program

All schedule and location changes will be posted daily in M-GRAND A-E.

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

M = Marriott W = Westin

Tuesday, April 5, 2011 (cont.)

2:00 PM - 5:00 PM *Sessions*

	Accelerated Bridge Design and Construction	M-MEETING ROOM 4
	Contractors' Day Session: Concrete—The Strength of Florida	M-MEETING ROOM 5
	Open Paper Session	M-MEETING ROOM 1
	Performance-Based Specifications and Testing, Part 2	M-SALON 4
	Reaching Out to the Next Generation	M-SALON 5

2:00 PM - 5:00 PM

CPC	Certification Programs	M-SALON 3
222	Corrosion	W-LANCASTER
223	Shrinkage Compensating	W-GARRISONS
229	Controlled Low Strength	M-MEETING ROOM 9
235	Electronic Data Exchange	W-JACKSON
310	Decorative Concrete	M-SALON 2

2:00 PM - 6:00 PM

233	Slag Cement	M-MEETING ROOM 6

3:00 PM - 4:00 PM

236-TG1	Advanced Analysis Techniques for Concrete	M-SUITE 601

3:00 PM - 5:00 PM

CC	Convention Committee M2	M-MEETING ROOM 8
131	BIM	M-GRAND J
211-N	Proportioning with Ground Limestone and Material Fillers	W-STEELE
372	Prestressed/Wire Wrapped	W-TUSCAN

3:30 PM - 5:00 PM

363-A	High-Strength Lightweight Concrete	M-SUITE 401

3:30 PM - 5:30 PM

325	Pavements	M-MEETING ROOM 11

3:30 PM - 6:00 PM

544	Fiber-Reinforced Concrete	W-O'KNIGHT

Daily Program

All schedule and location changes will be posted daily in M-GRAND A-E.

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

M = Marriott W = Westin

Tuesday, April 5, 2011 (cont.)

4:00 PM - 5:30 PM

308/213 Guide on Internal Curing — **M-GRAND H**

4:00 PM - 6:00 PM

350-L Env Str - Specification — **W-YBOR**

5:00 PM - 6:00 PM

Faculty Network Reception — **W-TERRACE**

Convention #1 Pre-Mixer Gathering — **M-CHAMPIONS**

6:00 PM - 9:00 PM

Concrete Mixer—The Florida Aquarium — **THE FLORIDA AQUARIUM**

Wednesday, April 6, 2011

7:00 AM - 8:30 AM

ACI/ASCE ACI/ASCE Coordination — **M-MEETING ROOM 12**

7:00 AM - 9:00 AM

SYPAC Student & Young Professional Activities — **M-MEETING ROOM 11**

7:00 AM - 10:00 AM

★ Guest Hospitality — **M-IL TERRAZZO RESTAURANT**

Coffee Break — **M-GRAND FOYER**

7:00 AM - 3:00 PM

Speaker Ready Room — **M-OFFICE 1&2**

8:00 AM - 10:30 AM

308-B Curing - Specifications — **M-MEETING ROOM 9**

8:00 AM - 11:00 AM

TCSC TAC Construction Standards Committee — **M-MEETING ROOM 7**

8:00 AM - 12:00 PM

ACI Registration & Bookstore — **M-GRAND FOYER**

8:00 AM - 2:00 PM

✓ACI/TCA Tilt-Up Supervisor Certification Seminar and Exam — **M-MEETING ROOM 8**

Daily Program

All schedule and location changes will be posted daily in M-GRAND A-E.

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

M = Marriott W = Westin

Wednesday, April 6, 2011 (cont.)

8:00 AM - 5:00 PM

350	Environmental Structures	M-GRAND I&J

8:00 AM - 6:00 PM

318	Building Code	M-GRAND F

8:30 AM - 10:00 AM

C601-C	Masonry Testing Technician	M-SALON 1

8:30 AM - 10:30 AM

303	Architectural CIP	M-SALON 2

8:30 AM - 11:30 AM

211	Proportioning	M-MEETING ROOM 10
330-TG	Parking Lots & Site Paving TG	M-MEETING ROOM 13
363	High-Strength	M-MEETING ROOM 12

9:00 AM - 12:00 PM *Sessions*

	ACI and the Concrete Industry's Approach to Green Building	M-MEETING ROOM 4
	Advances in Fiber-Reinforced Concrete Durability and Field Applications, Part 1	M-MEETING ROOM 5
	Performance-Based Specifications and Testing, Part 3	M-SALON 4
	Performance of RC Columns under Extreme Loading, Part 1	M-MEETING ROOM 1

9:00 AM - 12:00 PM

ACIFdn	ACI Foundation	M-SALON 3

9:00 AM - 5:00 PM

376-TG	RLG Containment Structures - TG M3	M-MEETING ROOM 11

10:00 AM - 12:30 PM

C601-B	Concrete Quality Technical Mgr	M-SALON 1

10:00 AM - 4:00 PM

	★Guest Lounge	M-IL TERRAZZO FOYER

Daily Program

All schedule and location changes will be posted daily in M-GRAND A-E.

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

M = Marriott W = Westin

Wednesday, April 6, 2011 (cont.)

10:30 AM - 12:30 PM

329 Perf Ready Mixed **M-GRAND G&H**

10:30 AM - 1:00 PM

308-A Curing - Guide **M-MEETING ROOM 9**

11:30 AM - 1:00 PM

C601-D Decorative Concrete Finisher **M-SALON 2**

1:00 PM - 4:00 PM

330 Parking Lots & Site Paving **M-MEETING ROOM 9**

2:00 PM - 5:00 PM *Sessions*

Advances in Fiber-Reinforced Concrete Durability and Field Applications, Part 2 **M-MEETING ROOM 5**

History of Concrete **M-SALON 4**

Performance of RC Columns under Extreme Loading, Part 2 **M-MEETING ROOM 1**

2:00 PM - 5:00 PM

308 Curing **M-MEETING ROOM 12**

Thursday, April 7, 2011

8:00 AM - 5:00 PM

✓Concrete Repair Basics Seminar **M-MEETING ROOM 5**

10:00 AM - 5:00 PM

BOD Board of Direction **M-SALON 5**

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
ACI/ASCE	ACI/ASCE Coordination	Wed	7:00 AM-8:30 AM	M-MEETING ROOM 12
ACI/NACE	ACI/NACE Coordination	Mon	10:00 AM-11:30 AM	M-SUITE 601
ACIFdn	ACI Foundation	Wed	9:00 AM-12:00 PM	M-SALON 3
BOD	Board of Direction	Thu	10:00 AM-5:00 PM	M-SALON 5
C601-A	Adhesive Anchor Installer	Mon	11:30 AM-1:00 PM	M-SALON 1
C601-B	Concrete Quality Technical Mgr	Wed	10:00 AM-12:30 PM	M-SALON 1
C601-C	Masonry Testing Technician	Wed	8:30 AM-10:00 AM	M-SALON 1
C601-D	Decorative Concrete Finisher	Wed	11:30 AM-1:00 PM	M-SALON 2
C610	Field Technician Cert	Mon	8:30 AM-11:00 AM	M-MEETING ROOM 9
C620	Laboratory Tech Cert	Tue	8:30 AM-10:00 AM	M-GRAND I
C630	Construction Inspector Cert	Tue	10:00 AM-11:30 AM	M-CAFÉ WATERSIDE PRIVATE ROOM
C631	Conc Transportation Const Insp	Mon	1:00 PM-2:30 PM	M-SUITE 1001
C640	Craftsman Cert	Tue	12:30 PM-3:30 PM	M-CAFÉ WATERSIDE PRIVATE ROOM
C650	Tilt-Up Constructor Cert	Sun	2:00 PM-3:30 PM	M-IL TERRAZZO PRIVATE ROOM
C660	Shotcrete Nozzleman Cert	Mon	1:00 PM-3:00 PM	M-SUITE 601
CAC	Chapter Activities	Mon	2:00 PM-5:00 PM	W-STEELE
CC	Convention Committee M2	Tue	3:00 PM-5:00 PM	M-MEETING ROOM 8
CLC	Construction Liaison	Sun	8:00 AM-10:30 AM	W-LANCASTER
CPC	Certification Programs	Tue	2:00 PM-5:00 PM	M-SALON 3
CRC	Concrete Research Council	Tue	11:00 AM-1:00 PM	M-GRAND I
E701	Materials for Concrete Construction	Sun	10:00 AM-11:30 AM	M-IL TERRAZZO PRIVATE ROOM
E702	Designing Concrete Structures	Mon	5:00 PM-6:30 PM	M-MEETING ROOM 7
E703	Concrete Construction Practices	Mon	5:00 PM-7:00 PM	W-YBOR

Numerical Committee Meeting Listing

M = Marriott **W = Westin**

Code	Committee	Day	Time	Room Name
E706	Repair Application Procedures	Sun	8:00 AM-10:00 AM	W-JACKSON
E707	Specification Education	Tue	11:30 AM-1:00 PM	M-MEETING ROOM 11
EAC	Educational Activities M1	Sat	1:00 PM-5:00 PM	M-SUITE 1001
EAC	Educational Activities M2	Tue	8:00 AM-12:00 PM	W-JACKSON
*fib*TG9.3	FRP Reinforcement for Concrete Structures M1	Tue	7:00 AM-10:00 AM	W-STEELE
*fib*TG9.3	FRP Reinforcement for Concrete Structures M2	Tue	10:30 AM-1:00 PM	M-MEETING ROOM 7
HTC	Hot Topic	Sun	11:30 AM-1:00 PM	W-TUSCAN
IC	International Committee	Tue	9:00 AM-11:30 AM	M-SALON 3
IC-Conf	International Conferences	Mon	7:15 AM-8:30 AM	W-TUSCAN
IC-Part	International Partnerships & Publications	Sun	10:00 AM-12:00 PM	M-SALON 6
IJBRC	Intl Joints & Bearings Research	Tue	8:00 AM-9:00 AM	M-MEETING ROOM 12
Intl-Cert	International Certification	Sun	3:30 PM-5:00 PM	M-SUITE 701
ISO/TC 71	ISO/TC 71 Advisory Cmte	Mon	1:00 PM-2:30 PM	M-MEETING ROOM 13
MEMC	Membership	Sun	8:30 AM-11:30 AM	M-MEETING ROOM 13
MKTC	Marketing	Mon	2:00 PM-5:00 PM	M-CAFÉ WATERSIDE PRIVATE ROOM
PUBC	Publications	Mon	8:30 AM-10:30 AM	W-GARRISONS
RCC	Responsibility	Sun	2:00 PM-5:00 PM	M-MEETING ROOM 6
SCO	Scholarship Council M2	Tue	9:00 AM-10:00 AM	M-SALON 1
SYPAC	Student & Young Professional Activities	Wed	7:00 AM-9:00 AM	M-MEETING ROOM 11
S801	Student Activities	Sun	8:00 AM-10:00 AM	M-MEETING ROOM 8
S802	Teaching Methods and Educational Materials	Mon	8:30 AM-10:00 AM	W-JACKSON

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
S805	Collegiate Concrete Council	Sun	4:00 PM-5:00 PM	M-SALON 6
TAC	Technical Activities M1	Fri	6:30 PM-9:00 PM	M-MEETING ROOM 1
TAC	Technical Activities M2	Sat	7:00 AM-6:00 PM	M-MEETING ROOM 1
TAC	Technical Activities M3	Sun	7:00 AM-2:00 PM	M-MEETING ROOM 6
TACRG1	TAC Review Group 1	Sun	8:00 AM-11:00 AM	M-SUITE 401
TACRG2	TAC Review Group 2	Sun	8:00 AM-11:00 AM	M-SUITE 501
TACRG3	TAC Review Group 3	Sun	8:00 AM-11:00 AM	M-SUITE 601
TACRG4	TAC Review Group 4	Sun	8:00 AM-11:00 AM	M-SUITE 701
TCSC	TAC Construction Standards Committee	Wed	8:00 AM-11:00 AM	M-MEETING ROOM 7
TRRC	TAC Repair & Rehab	Tue	7:00 AM-8:30 AM	M-GRAND H
TTAG	Technology Transfer Advisory Group	Tue	7:00 AM-8:30 AM	M-MEETING ROOM 6
117	Tolerances	Tue	8:30 AM-11:30 AM	M-GRAND H
118	Computers	Mon	8:30 AM-10:00 AM	M-SUITE 1001
120	History	Tue	1:30 PM-3:00 PM	W-STEELE
121	Quality Assurance	Sun	3:00 PM-5:00 PM	M-SALON 1
122	Thermal Properties	Mon	8:30 AM-10:00 AM	M-MEETING ROOM 11
123	Research	Sun	4:00 PM-5:00 PM	M-MEETING ROOM 8
124	Aesthetics	Mon	10:30 AM-12:00 PM	W-GARRISONS
130	Sustainability M1	Mon	2:00 PM-5:00 PM	W-BALLROOM 1
130	Sustainability M2	Tue	11:00 AM-1:00 PM	M-GRAND F
130-A	Materials	Mon	8:30 AM-10:00 AM	W-BALLROOM 2
130-B	Production/ Transport/ Construction	Mon	10:00 AM-11:00 AM	M-SALON 1
130-C	Structures in Service	Tue	10:00 AM-11:00 AM	M-GRAND I
130-D	Rating Systems/ Sustainability Tools	Tue	2:00 PM-4:00 PM	M-GRAND H

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
130-E	Design/ Specifications/ Codes/Regulations	Mon	11:00 AM-1:00 PM	M-MEETING ROOM 9
130-F	Social Issues	Sun	12:30 PM-2:00 PM	M-SALON 1
130-G	Education/ Certification	Tue	7:30 AM-9:00 AM	M-SALON 3
131	BIM	Tue	3:00 PM-5:00 PM	M-GRAND J
201	Durability	Tue	8:30 AM-11:00 AM	M-GRAND F
201-A	Durability - Sulfate Attack	Sun	3:30 PM-5:00 PM	M-MEETING ROOM 12
201-C	Durability - Condition Report	Tue	1:00 PM-3:00 PM	W-TUSCAN
201-D	Durability - Oversight Committee	Mon	11:30 AM-1:00 PM	M-SUITE 601
201-E	Salt Weathering/Salt Attack	Mon	4:00 PM-6:00 PM	W-JACKSON
207	Mass Concrete	Mon	10:00 AM-1:00 PM	W-STEELE
209	Creep & Shrinkage	Mon	8:30 AM-11:30 AM	M-MEETING ROOM 6
211	Proportioning	Wed	8:30 AM-11:30 AM	M-MEETING ROOM 10
211-A	Proportioning - Editorial	Tue	10:00 AM-12:00 PM	W-STEELE
211-C	Proportioning - No Slump	Tue	8:00 AM-10:00 AM	W-FLETCHER
211-E	Proportioning - Evaluation	Tue	11:30 AM-1:00 PM	W-FLETCHER
211-F	Proportioning - Submittals	Tue	2:00 PM-4:00 PM	W-YBOR
211-I	Assessing Aggregate Gradation	Tue	1:00 PM-3:00 PM	W-FLETCHER
211-N	Proportioning with Ground Limestone and Material Fillers	Tue	3:00 PM-5:00 PM	W-STEELE
211-P	Guide for Selecting Proportions for Pumpable Concrete	Mon	3:30 PM-5:00 PM	W-YBOR
212	Chemical Admixtures	Mon	2:00 PM-5:00 PM	W-GARRISONS
213	Lightweight	Tue	1:30 PM-3:30 PM	M-GRAND G
213-TG	Lightweight - Editorial TG	Tue	11:30 AM-1:00 PM	W-TUSCAN
214	Strength Tests M1	Mon	1:00 PM-2:00 PM	W-TUSCAN
214	Strength Tests M2	Mon	3:30 PM-5:00 PM	M-MEETING ROOM 12

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
215	Fatigue	Sun	2:00 PM-4:00 PM	W-YBOR
216	Fire Resistance	Mon	10:00 AM-1:00 PM	M-MEETING ROOM 12
221	Aggregates	Sun	11:30 AM-1:00 PM	M-MEETING ROOM 13
222	Corrosion	Tue	2:00 PM-5:00 PM	W-LANCASTER
223	Shrinkage Compensating	Tue	2:00 PM-5:00 PM	W-GARRISONS
223-C	Shr Compensating - Constr	Tue	1:00 PM-2:00 PM	W-GARRISONS
223-D	Shr Compensating - Non-Reinforced Concrete or Mortar	Tue	11:30 AM-1:00 PM	W-GARRISONS
224	Cracking	Sun	2:30 PM-5:00 PM	W-LANCASTER
225	Hydraulic Cements	Mon	1:00 PM-4:00 PM	M-SALON 2
228	Nondestructive Testing	Sun	10:00 AM-12:30 PM	M-MEETING ROOMS 9&10
228-A	NDT Technician Certification	Mon	1:00 PM-3:00 PM	M-SUITE 701
229	Controlled Low Strength	Tue	2:00 PM-5:00 PM	M-MEETING ROOM 9
230	Soil Cement	Tue	8:00 AM-10:00 AM	M-SALON 2
231	Early Age	Mon	2:00 PM-3:30 PM	M-SALON 1
232	Fly Ash & Natural Pozzolans	Mon	1:00 PM-4:00 PM	M-SALON 6
232-A	Fly Ash - Use of Nat Pozzolans	Mon	10:00 AM-1:00 PM	M-MEETING ROOM 13
233	Slag Cement	Tue	2:00 PM-6:00 PM	M-MEETING ROOM 6
234	Silica Fume	Tue	2:00 PM-3:30 PM	M-MEETING ROOM 11
235	Electronic Data Exchange	Tue	2:00 PM-5:00 PM	W-JACKSON
236	Material Science	Mon	4:30 PM-5:30 PM	M-GRAND I&J
236-B	Material Science - Transport Mechanisms	Sun	2:00 PM-3:30 PM	M-MEETING ROOM 13
236-D	Material Science - Nanotechnology of Concrete M1	Sun	3:30 PM-5:00 PM	M-IL TERRAZZO PRIVATE ROOM
236-D	Material Science - Nanotechnology of Concrete M2	Tue	1:00 PM-3:00 PM	M-GRAND J

Numerical Committee Meeting Listing

M = Marriott **W = Westin**

Code	Committee	Day	Time	Room Name
236-TG1	Advanced Analysis Techniques for Concrete	Tue	3:00 PM-4:00 PM	M-SUITE 601
236-TG2	Sustainability Engineered by Material Science	Tue	11:30 AM-12:30 PM	M-GRAND H
237	Self-Consolidating Concrete	Mon	8:15 AM-11:00 AM	M-GRAND I&J
238	Workability of Fresh Concrete	Tue	8:30 AM-10:00 AM	W-LANCASTER
301	Specifications M1	Sun	8:30 AM-12:00 PM	W-BALLROOM 1
301	Specifications M2	Mon	1:00 PM-5:00 PM	W-O'KNIGHT
301-A	Spec - Gen Req, Definitions & Tolerances	Mon	8:30 AM-12:00 PM	M-SUITE 1101
301-B	Spec - Formwork & Reinforcement	Sun	12:30 PM-4:30 PM	M-SUITE 601
301-C	Spec - Placing Consolidating & Curing	Sun	1:00 PM-5:00 PM	W-FLETCHER
301-D	Spec - Lightweight & Massive Concrete	Sun	1:00 PM-5:00 PM	M-SUITE 1101
301-E	Spec - Prestressed Concrete	Sun	3:00 PM-5:00 PM	W-JACKSON
301-F	Spec - Precast Concrete Panels	Sun	1:00 PM-3:00 PM	W-JACKSON
301-G	Spec - Shrink Comp Conc & Ind Floor Slabs	Sun	1:00 PM-5:00 PM	M-SUITE 401
301-H	Spec - Tilt-Up Constr & Arch Conc	Sun	12:30 PM-3:30 PM	M-SUITE 701
301-SC	Spec - Steering Committee	Sun	7:00 AM-8:30 AM	M-SUITE 1001
302	Floor Construction	Mon	8:30 AM-1:00 PM	W-BALLROOM 1
303	Architectural CIP	Wed	8:30 AM-10:30 AM	M-SALON 2
304	Measuring/Mix/Trans/Placing	Mon	11:30 AM-1:00 PM	M-SALON 3
305	Hot Weather	Sun	2:00 PM-4:00 PM	M-MEETING ROOM 8
306	Cold Weather	Tue	8:30 AM-11:30 AM	W-GARRISONS
307	Chimneys	Mon	2:00 PM-5:00 PM	M-SUITE 401
308	Curing	Wed	2:00 PM-5:00 PM	M-MEETING ROOM 12
308/213	Guide on Internal Curing	Tue	4:00 PM-5:30 PM	M-GRAND H

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
308-A	Curing - Guide	Wed	10:30 AM-1:00 PM	M-MEETING ROOM 9
308-B	Curing - Specifications	Wed	8:00 AM-10:30 AM	M-MEETING ROOM 9
309	Consolidation	Sun	2:00 PM-5:00 PM	M-SALON 3
310	Decorative Concrete	Tue	2:00 PM-5:00 PM	M-SALON 2
311	Inspection	Mon	8:30 AM-10:00 AM	M-SUITE 601
313	Bins & Silos	Mon	8:30 AM-5:00 PM	W-FLETCHER
314	Simplified Design Buildings	Sun	8:30 AM-11:30 AM	M-MEETING ROOM 12
314/TAC	314-TAC Review Group	Mon	3:00 PM-4:00 PM	M-SUITE 501
315	Detailing M1	Sun	2:00 PM-5:00 PM	W-GARRISONS
315-B	Detailing - Constructibility	Sun	8:30 AM-11:30 AM	M-SALON 1
318	Building Code	Wed	8:00 AM-6:00 PM	M-GRAND F
318-A	General Concrete Constr	Tue	1:30 PM-6:00 PM	M-MEETING ROOM 13
318-B	Reinforcement & Development M1	Mon	2:00 PM-5:00 PM	M-MEETING ROOM 9
318-B	Reinforcement & Development M2	Tue	8:00 AM-12:30 PM	M-GRAND J
318-C	Serviceability/Safety M1	Mon	4:00 PM-6:00 PM	M-SALON 6
318-C	Serviceability/Safety M2	Tue	1:30 PM-6:00 PM	M-MEETING ROOM 7
318-D	Flexure & Axial Loads M1	Mon	10:00 AM-1:00 PM	M-MEETING ROOM 11
318-D	Flexure & Axial Loads M2	Tue	8:00 AM-12:30 PM	M-MEETING ROOM 8
318-E	Shear & Torsion M1	Mon	10:00 AM-1:00 PM	M-SALON 2
318-E	Shear & Torsion M2	Tue	8:00 AM-12:30 PM	M-MEETING ROOM 10
318-G	Prestressed Precast M1	Mon	2:00 PM-3:30 PM	M-MEETING ROOM 12
318-G	Prestressed Precast M2	Tue	8:00 AM-12:30 PM	M-GRAND G
318-H	Seismic Provisions	Tue	1:30 PM-6:00 PM	M-GRAND I
318-L	International Liaison	Mon	3:30 PM-5:00 PM	M-SUITE 1001
318-R	Code Reorganization	Tue	1:30 PM-6:00 PM	M-SALON 1

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
318-S	Spanish Translation	Mon	2:00 PM-3:30 PM	M-MEETING ROOM 11
325	Pavements	Tue	3:30 PM-5:30 PM	M-MEETING ROOM 11
325-A	Pavements - Design	Tue	8:00 AM-10:30 AM	W-YBOR
325-C	Pavements - Prestressed and Precast	Tue	10:30 AM-12:00 PM	W-YBOR
325-D	Proportioning for Pavements	Tue	1:00 PM-2:00 PM	M-SUITE 401
325-E	Accelerated Paving	Tue	2:00 PM-3:30 PM	M-SUITE 401
327	RCC Pavements	Tue	10:00 AM-12:00 PM	W-LANCASTER
329	Perf Ready Mixed	Wed	10:30 AM-12:30 PM	M-GRAND G&H
330	Parking Lots & Site Paving	Wed	1:00 PM-4:00 PM	M-MEETING ROOM 9
330-TG	Parking Lots & Site Paving TG	Wed	8:30 AM-11:30 AM	M-MEETING ROOM 13
332	Residential Concrete	Tue	1:30 PM-4:30 PM	W-BALLROOM 2
332 D&E	Residential Concrete D&E	Tue	8:00 AM-10:30 AM	M-MEETING ROOM 13
332-B	Conc Mtrls and Plcmnt	Tue	10:30 AM-12:00 PM	M-MEETING ROOM 13
332-F	Residential Concrete - Slabs	Tue	8:00 AM-10:30 AM	M-MEETING ROOM 9
334	Shells	Mon	5:00 PM-6:00 PM	M-SUITE 1001
335	Composite Hybrid	Sun	11:30 AM-1:00 PM	M-IL TERRAZZO PRIVATE ROOM
336	Footings	Sun	1:00 PM-5:00 PM	M-SUITE 1001
341	Earthquake-Resistant Bridges	Sun	3:00 PM-5:00 PM	W-BALLROOM 1
341-A	Equake Res Brdgs - Columns	Sun	11:00 AM-12:30 PM	M-CAFÉ WATERSIDE PRIVATE ROOM
341-B	Equake Res Brdgs - Pier Walls	Sun	1:30 PM-3:00 PM	M-CAFÉ WATERSIDE PRIVATE ROOM
341-C	Equake Res Brdgs - Retrofit	Sun	8:00 AM-9:30 AM	M-CAFÉ WATERSIDE PRIVATE ROOM
341-D	Perf Based Seismic Design	Sun	9:30 AM-11:00 AM	M-CAFÉ WATERSIDE PRIVATE ROOM

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
342	Bridge Evaluation	Sun	8:30 AM-10:00 AM	M-SALON 6
343	Bridge Design	Mon	10:00 AM-1:00 PM	M-MEETING ROOM 10
343-A	Design	Sun	11:00 AM-12:00 PM	M-SUITE 701
343-B	Bridge Deck Design	Mon	8:15 AM-9:00 AM	M-MEETING ROOM 7
345	Bridge Construction	Sun	1:30 PM-3:30 PM	W-STEELE
346	CIP Pipe	Mon	11:30 AM-1:00 PM	W-TUSCAN
347	Formwork M1	Sat	9:00 AM-6:00 PM	M-MEETING ROOM 13
347	Formwork M2	Sun	8:30 AM-12:30 PM	W-BALLROOM 2
347-A	Formwork - Specification	Sat	7:00 PM-9:00 PM	M-MEETING ROOM 11
348	Safety	Tue	10:00 AM-12:00 PM	M-SALON 1
349	Nuclear Structures	Tue	1:00 PM-5:00 PM	W-BALLROOM 1
349A&B	Nuclear Structures - Design & Materials	Mon	9:00 AM-12:00 PM	M-GRAND G&H
349-C	Nuclear Structures - Anchorage	Mon	2:00 PM-4:30 PM	M-GRAND I&J
350	Environmental Structures	Wed	8:00 AM-5:00 PM	M-GRAND I&J
350-A	Env Str - General & Concrete	Tue	11:30 AM-5:00 PM	M-SUITE 501
350-B	Env Str - Durability	Mon	8:30 AM-1:00 PM	W-YBOR
350-C	Env Str - Reinf & Devel	Sun	8:30 AM-11:30 AM	M-SUITE 1001
350-D	Env Str - Structural	Mon	8:30 AM-6:30 PM	M-IL TERRAZZO PRIVATE ROOM
350-E	Env Str - Precast/ Prestressed	Sun	1:00 PM-5:00 PM	M-SUITE 501
350-F	Env Str - Seismic	Tue	8:30 AM-3:30 PM	M-IL TERRAZZO PRIVATE ROOM
350-H	Env Str - Editorial	Mon	12:30 PM-2:00 PM	M-SUITE 1101
350-J	Env Str - Education	Mon	3:30 PM-6:30 PM	M-SUITE 1101
350-L	Env Str - Specification	Tue	4:00 PM-6:00 PM	W-YBOR
350-SC	Env Str - Steering Comm	Sun	11:30 AM-1:00 PM	M-SUITE 501

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
351	Equip Foundations	Mon	2:30 PM-4:30 PM	M-MEETING ROOM 13
351-B	Grtng Fndns - Equip Machnry	Mon	8:15 AM-10:00 AM	W-STEELE
351-C	Equipment Foundations - Dynamic Foundations	Sun	3:00 PM-5:00 PM	M-MEETING ROOM 7
351-D	Design Provisions for Heavy Industrial Equipment and Machinery Concrete Support Structures	Mon	10:00 AM-12:00 PM	W-JACKSON
352	Joints	Sun	2:00 PM-5:00 PM	W-BALLROOM 2
355	Anchorage	Sun	1:00 PM-5:00 PM	M-MEETING ROOMS 9&10
355-TG	Anchorage TG	Mon	8:30 AM-10:30 AM	M-SUITE 701
357	Offshore & Marine	Tue	8:30 AM-10:30 AM	W-TUSCAN
360	Slabs on Ground	Mon	2:00 PM-6:30 PM	M-GRAND G&H
362	Parking Structures	Mon	1:00 PM-5:00 PM	M-MEETING ROOM 8
362-A	Parking Str - Standard	Mon	8:30 AM-12:00 PM	M-SUITE 501
363	High-Strength	Wed	8:30 AM-11:30 AM	M-MEETING ROOM 12
363-A	High-Strength Lightweight Concrete	Tue	3:30 PM-5:00 PM	M-SUITE 401
364	Rehabilitation	Mon	1:00 PM-3:00 PM	W-BALLROOM 2
364-TG1	Rehabilitation Guide	Mon	11:00 AM-12:00 PM	M-SUITE 701
365	Service Life M1	Mon	9:00 AM-11:00 AM	M-SALON 3
365	Service Life M2	Mon	2:00 PM-4:00 PM	M-SALON 3
369	Seismic Rehab M1	Sun	1:00 PM-2:30 PM	W-LANCASTER
369	Seismic Rehab M2	Mon	2:00 PM-6:00 PM	M-MEETING ROOM 6
370	Dynamic & Vibratory Effects	Sun	10:30 AM-1:00 PM	W-GARRISONS
371	Elevated Tanks with Concrete Pedestals	Tue	11:00 AM-12:30 PM	M-SUITE 401
372	Prestressed/Wire Wrapped	Tue	3:00 PM-5:00 PM	W-TUSCAN

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
373	Prestressed/ Tendons	Mon	3:00 PM-5:00 PM	M-SUITE 701
374	Seismic Design	Mon	8:30 AM-12:30 PM	M-MEETING ROOM 8
374-TG	Protocol for Testing RC Structural Elements	Sun	11:30 AM-1:00 PM	M-SUITE 1001
375	Design for Wind Loads	Mon	1:00 PM-3:30 PM	W-JACKSON
376	RLG Containment Structures M1	Sat	3:00 PM-5:00 PM	M-MEETING ROOM 12
376	RLG Containment Structures M2	Sun	9:00 AM-5:00 PM	M-MEETING ROOM 11
376-TG	RLG Containment Structures - TG M1	Mon	9:00 AM-5:00 PM	M-MEETING ROOM 7
376-TG	RLG Containment Structures - TG M2	Tue	9:00 AM-5:00 PM	M-MEETING ROOM 12
376-TG	RLG Containment Structures - TG M3	Wed	9:00 AM-5:00 PM	M-MEETING ROOM 11
408	Development and Splicing	Sun	8:30 AM-11:30 AM	M-MEETING ROOM 7
408-A	Mech Splices	Sun	8:00 AM-8:30 AM	M-SALON 6
421	Reinf Slabs	Sun	10:00 AM-1:00 PM	M-MEETING ROOM 8
423	Prestressed	Mon	8:30 AM-12:30 PM	W-O'KNIGHT
423/445	Adhoc Grp on Shear in Prestress Conc	Sun	3:00 PM-5:00 PM	W-TUSCAN
423-E	Prestress Losses	Sun	1:00 PM-4:00 PM	M-SALON 6
435	Deflection	Mon	3:30 PM-6:30 PM	M-SALON 1
437	Strength Evaluation	Mon	10:30 AM-12:30 PM	M-SALON 6
439	Steel Reinforcement	Mon	8:30 AM-10:00 AM	M-MEETING ROOM 10
439-A	Steel Reinforcement - Wire	Sun	3:30 PM-5:00 PM	W-STEELE
440	Fiber-Reinforced Polymer	Tue	1:00 PM-5:00 PM	M-GRAND F
440-F	FRP - Repair Strengthening	Tue	10:00 AM-12:00 PM	W-BALLROOM 1
440-G	FRP - Student	Mon	8:15 AM-10:00 AM	M-MEETING ROOM 13
440-H	FRP - Reinforced Concrete	Sun	12:00 PM-2:00 PM	W-BALLROOM 1
440-K	FRP - Material Characteristics	Tue	8:00 AM-10:00 AM	W-BALLROOM 1

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
440-L	FRP - Durability	Mon	12:00 PM-2:00 PM	M-GRAND G&H
441	Columns	Mon	11:30 AM-2:00 PM	M-MEETING ROOM 6
441-E	Columns Multi-Spiral Reinf	Sun	11:30 AM-1:00 PM	W-JACKSON
444	Experimental Analysis	Tue	8:00 AM-10:00 AM	M-CAFÉ WATERSIDE PRIVATE ROOM
445	Shear & Torsion	Mon	2:00 PM-6:00 PM	M-MEETING ROOM 10
445-A	Shear & Torsn - Strut & Tie	Sun	10:30 AM-1:30 PM	W-STEELE
445-B	Shear & Torsn - Seismic Shear	Sun	8:00 AM-11:00 AM	W-TUSCAN
445-C	Shear & Torsn - Punching Shear	Sun	1:00 PM-3:00 PM	W-TUSCAN
445-D	Shear & Torsn - Database	Mon	10:00 AM-12:00 PM	M-SUITE 1001
445-E	Shear & Torsn - SOA Torsion	Sun	12:30 PM-2:00 PM	W-YBOR
446	Fracture Mechanics	Mon	3:30 PM-5:00 PM	M-MEETING ROOM 11
447	Finite Element Analysis	Mon	11:00 AM-1:30 PM	M-GRAND I&J
506	Shotcreting	Tue	8:30 AM-11:30 AM	W-O'KNIGHT
506-A	Shotcreting - Evaluation	Sun	9:00 AM-11:00 AM	W-FLETCHER
506-B	Shotcreting - Fiber Reinforced	Sun	2:00 PM-3:00 PM	M-SALON 1
506-C	Shotcreting - Guide	Mon	10:30 AM-12:30 PM	M-CAFÉ WATERSIDE PRIVATE ROOM
506-E	Shotcreting - Specifications	Mon	8:30 AM-10:30 AM	M-CAFÉ WATERSIDE PRIVATE ROOM
506-F	Shotcreting - Underground	Mon	3:00 PM-4:00 PM	W-LANCASTER
506-G	Qualifications for Projects	Sun	11:00 AM-1:00 PM	M-SUITE 401
515	Protective Systems	Tue	10:30 AM-12:00 PM	M-MEETING ROOM 9
522	Pervious Concrete	Tue	8:30 AM-10:30 AM	W-BALLROOM 2
523	Cellular Concrete	Tue	10:00 AM-1:00 PM	M-MEETING ROOM 6
523-A	Cellular - Autoclaved Aerated	Tue	8:30 AM-10:00 AM	M-MEETING ROOM 6

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
524	Plastering	Mon	8:30 AM-10:00 AM	M-SALON 2
533	Precast Panels	Sun	1:00 PM-2:30 PM	M-MEETING ROOM 7
543	Piles	Mon	8:30 AM-11:30 AM	W-TUSCAN
544	Fiber-Reinforced Concrete	Tue	3:30 PM-6:00 PM	W-O'KNIGHT
544-A	FRC - Production & Applications	Mon	11:30 AM-1:00 PM	W-BALLROOM 2
544-B	FRC - Education	Mon	8:30 AM-10:00 AM	M-MEETING ROOM 12
544-C	FRC - Testing	Tue	2:00 PM-3:30 PM	W-O'KNIGHT
544-D	FRC - Structural Uses	Mon	3:30 PM-6:00 PM	W-BALLROOM 2
544-E	FRC - Mechanical Properties	Mon	2:00 PM-3:30 PM	W-TUSCAN
544-F	FRC - Durability	Tue	10:30 AM-12:00 PM	W-BALLROOM 2
546	Repair	Mon	8:30 AM-10:30 AM	M-SALON 6
546-B	Repair - Material Selection Guide	Sun	8:30 AM-9:30 AM	W-O'KNIGHT
546-C	Repair - Guide	Sun	10:00 AM-12:00 PM	M-SALON 2
548	Polymers	Tue	8:30 AM-11:30 AM	M-MEETING ROOM 11
548-A	Polymers - Overlays	Mon	8:30 AM-10:30 AM	M-SUITE 401
548-B	Adhesives in Concrete	Mon	1:30 PM-3:30 PM	W-YBOR
548-C	Structural Polymer Design	Mon	10:30 AM-12:30 PM	M-SUITE 401
549	Thin Reinforced	Sun	10:30 AM-12:30 PM	W-O'KNIGHT
549-A	Glass Fiber-Reinforced Concrete - Spray-Up	Sun	8:30 AM-10:30 AM	W-STEELE
550	Precast Structures	Sun	3:00 PM-5:00 PM	M-CAFÉ WATERSIDE PRIVATE ROOM
551	Tilt-Up	Sun	9:00 AM-12:00 PM	M-SALON 3
552	Cementitious Grouting	Tue	11:30 AM-2:00 PM	M-SALON 3
555	Recycled	Mon	5:00 PM-6:30 PM	W-STEELE
560	Design & Constr ICFs	Tue	8:30 AM-10:30 AM	M-MEETING ROOM 7

Numerical Committee Meeting Listing

M = Marriott W = Westin

Code	Committee	Day	Time	Room Name
562	Eval, Repair & Rehab	Sun	1:00 PM-5:00 PM	W-O'KNIGHT
562-A	Eval, Repair & Rehab - Life Safety	Sat	4:00 PM-6:00 PM	M-MEETING ROOM 11
562-B	Eval, Repair & Rehab - Loads	Sun	8:00 AM-12:00 PM	W-YBOR
562-C	Eval, Repair & Rehab - Structural Analysis M1	Sat	4:00 PM-6:00 PM	M-SUITE 1101
562-C	Eval, Repair & Rehab - Structural Analysis M2	Sat	7:00 PM-9:00 PM	M-SUITE 1101
562-D	Eval, Repair & Rehab - Structural Repair Design M1	Sat	10:00 AM-12:00 PM	M-MEETING ROOM 11
562-D	Eval, Repair & Rehab - Structural Repair Design M2	Sat	1:00 PM-4:00 PM	M-MEETING ROOM 11
562-E	Eval, Repair & Rehab - Durability Qlty Assurance	Sat	6:00 PM-9:00 PM	M-MEETING ROOM 1
562-F	Eval, Repair & Rehab - General	Sat	1:00 PM-6:00 PM	M-MEETING ROOM 7
563	Specs for Repair of Struct Conc in Bldgs	Tue	1:00 PM-5:00 PM	M-MEETING ROOM 10
563-C	Excavation/Surface Preparation	Tue	8:00 AM-9:00 AM	M-SUITE 1001
563-F	Concrete Mixtures	Tue	8:00 AM-9:00 AM	M-SUITE 601
563-G	Placing/Curing	Tue	9:00 AM-10:00 AM	M-SUITE 701
563-H	Architectural/ Precast Concrete	Tue	9:00 AM-10:00 AM	M-SUITE 501
563-I	Proprietary Grouts/ Concrete	Tue	8:00 AM-9:00 AM	M-SUITE 401
563-J	Crack Repair	Tue	9:00 AM-10:00 AM	M-SUITE 401
563-K	External Reinforcement	Tue	8:00 AM-9:00 AM	M-SUITE 501
563-L	Prestressed Concrete	Tue	8:00 AM-9:00 AM	M-SUITE 1101
563-M	Polymer Concrete/ Overlays	Tue	8:00 AM-9:00 AM	M-SUITE 701
563-N	Protection Systems	Tue	9:00 AM-10:00 AM	M-SUITE 601
563-P	Corrosion	Tue	9:00 AM-10:00 AM	M-SUITE 1001

Saturday, April 2, 2011
9:00 AM - 12:00 PM

FRPRCS-10: FRP Strengthening of Reinforced Concrete Columns **M-MEETING ROOM 5**

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: Rudolf Seracino
Associate Professor
North Carolina State University
Raleigh, NC

Amir Z. Fam
Professor and Canada Research Chair
Queen's University
Kingston, ON, Canada

Two of the most important applications of FRP are the repair and rehabilitation of columns. A guide for the design and construction of externally bonded FRP systems is given in ACI 440.2R-08. This session includes presentations that focus on recent developments and advancements in the design, construction, and understanding of the behavior of confined columns.

Investigation of Bar Buckling in Columns Confined with Composite Material Jackets (S-1) **9:00 AM**

D. A. Bournas, Post-Doctoral Researcher, Joint Research Centre, European Commission, Ispra, Italy; and **Thanasis C. Triantafillou**, University of Patras

Strain Development and Hoop Strain Efficiency in FRP Confined Square Columns **9:30 AM**

Luke A. Bisby, Senior Research Fellow, University of Edinburgh, Edinburgh, UK; and **Tim Stratford**, **Jason Barrington**, and **David Dickson**, University of Edinburgh

Volumetric Response of GFRP-Confined Full-Scale RC Columns **10:00 AM**

Antonio De Luca, Post-Doctoral Researcher, University of Miami, Coral Gables, FL; **Antonio Nanni**, University of Miami; **Fabio Matta**, University of South Carolina; and **Andrea Prota**, **Fabio Nardone**, and **Piero Lignola Gial**, University of Naples

Saturday, April 2, 2011
9:00 AM - 12:00 PM

FRPRCS-10: FRP Strengthening of Reinforced Concrete Columns (cont.) **M-MEETING ROOM 5**

Behavior of Concrete Piles Confined with CFRP Grid **10:30 AM**
Lining Ding, Doctoral Candidate, Southeast University, Nanjing, China; **Zhishen Wu**, Ibaraki University; **Gang Wu**, Southeast University; and **Sami H. Rizkalla** and **Hatem Seliem**, North Carolina State University

An Ultimate Drift-Based Design Method for FRP Retrofitted RC Columns **11:00 AM**
Okan Ozcan, Research Assistant, Akdeniz University, Antalya, Turkey; and **B. Binici** and **G. Ozcebe**, Middle East Technical University

Saturday, April 2, 2011
9:00 AM - 12:00 PM

FRPRCS-10: Internal FRP Reinforced Concrete Structures **M-MEETING ROOM 4**

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: Rajan Sen
Professor
University of South Florida
Tampa, FL

Kenneth Neale
Professor
University of Sherbrooke
Sherbrooke, QC, Canada

The nonmagnetic and noncorrosive properties of FRP make it an ideal reinforcement for both concrete exposed and not exposed to weather. Current ACI guidance for designing FRP as internal reinforcement is given in ACI 440.1R-06. This session covers disparate topics ranging from the history and reliability of the code provisions for flexure to strength and serviceability design issues and new applications.

On the History and Reliability of the Flexural Strength of FRP Reinforced Concrete Members in ACI 440.1R **9:00 AM**
Carol K. Shield, Professor, University of Minnesota, Minneapolis, MN; and **Theodore Galambos** and **Peter Gulbrandsen**, University of Minnesota

Shear Capacity of Concrete Beams with FRP Reinforcement **9:30 AM**
Martin Kurth, Research Assistant, RWTH Aachen University, Aachen, Germany; and **Josef Hegger**, RWTH Aachen University

Designing FRP Reinforced Concrete for Deflection Control **10:00 AM**
Peter H. Bischoff, Professor, University of New Brunswick, Fredericton, NB, Canada; and **Stuart Veysey**, University of New Brunswick

Flexural Strength and Deflection Characteristics of High-Strength Concrete Beams with Hybrid FRP and Steel Bar Reinforcement **10:30 AM**
Young-Soo Yoon, Professor, Korea University, Seoul, Korea; and **Jun-Mo Yang**, **Kyung-Hwan Min**, and **Hyun-Oh Shin**, Korea University

Saturday, April 2, 2011
9:00 AM - 12:00 PM

FRPRCS-10: Internal FRP Reinforced Concrete Structures (cont.) **M-MEETING ROOM 4**

Static Testing of Full-Scale Concrete Bridge Barriers Reinforced with GFRP Bars **11:00 AM**
Ehab Ahmed, Post-Doctoral Fellow, University of Sherbrooke, Sherbrooke, QC, Canada; and **Brahim Benmokrane**, University of Sherbrooke

Development Length of Carbon Fiber-Reinforced Polymer Bars in Concrete **11:30 AM**
Slamah Krem, PhD Candidate, University of Waterloo, Waterloo, ON, Canada; and **Khaled Soudki**, University of Waterloo

Saturday, April 2, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Bond of FRP to Concrete Systems **M-MEETING ROOM 5**
Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: William J. Gold
Engineering Services Manager
BASF Construction Chemicals
Beachwood, OH

Trey Hamilton
Associate Professor
University of Florida
Gainesville, FL

The FRP-to-concrete bond is critically important for the effectiveness of bonded FRP repairs. This session presents the latest theoretical, experimental, and modeling efforts to characterize bond. The topics cover both externally bonded and near-surface-mounted FRP systems.

Modeling of CFRP-Concrete Interface Subjected to Coupled Pullout and Pushoff Actions **2:00 PM**
Tayyebeh Mohammadi, PhD Student, Marquette University, Milwaukee, WI; **Baolin Wan**, Marquette University; and **Jian-Guo Dai**, Hokkaido University

Differences between FRP Bond Behavior in Cracked and Uncracked Regions **2:30 PM**
M. Taher Khorramabadi, PhD Candidate, University of Cambridge, Cambridge, UK; and **Chris J. Burgoyne**, University of Cambridge

A Solution for Intermediate Crack-Induced Debonding in Plated Beams **3:00 PM**
Jian-Fei Chen, Reader in Structural Engineering Institute for Infrastructure and Environment, University of Edinburgh, Edinburgh, Scotland, UK; **Vijayabaskar Narayanamurthy**, University of Edinburgh; and **John Cairns**, Heriot-Watt University

Influence of the Curvature on the Bond Force Transfer of EBR **3:30 PM**
Wolfgang Finckh, Research Assistant, Technical University of Munich, Munich, Germany; and **Konrad Zilch**, Technical University of Munich

Saturday, April 2, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Bond of FRP to Concrete Systems (cont.) **M-MEETING ROOM 5**

Bond Tests on Concrete Elements Strengthened with EBR and NSM FRP Systems **4:00 PM**

Antonio Bilotta, PhD Candidate, University of Naples, Naples, Italy; **Francesca Ceroni** and **Maria Pecce**, University of Sannio; and **Marco Di Ludovico**, **Emidio Nigro**, and **Gaetano Manfredi**, University of Naples

Saturday, April 2, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Characterization of FRP Materials and Systems **M-MEETING ROOM 4**
Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: Carol K. Shield
Associate Professor
University of Minnesota
Minneapolis, MN

Shawn P. Gross
Associate Professor
Villanova University
Villanova, PA

The versatility of FRP stems from continuing R&D efforts to meet the needs of the profession. This session highlights research findings on diverse topics ranging from nondestructive testing and new materials to the characterization of FRP as an oxygen barrier in corrosion repair that helps to extend the application of FRP for infrastructure repair.

Experimental Investigation of HFRP Composite Beams **2:00 PM**
Hiroshi Mutsuyoshi, Professor, Saitama University, Saitama, Japan; **Hai Nguyen Duc**, Saitama University; **Kensuke Shiroki**, Japan Railway Construction, Transportation and Technology Agency; and **Thiru Aravinthan** and **Allan Manalo**, University of Southern Queensland

Noncontact Measuring Techniques to Characterize Deformation on FRP U-Wrap Anchors **2:30 PM**
Jaeha Lee, Research Engineer, Korea Institute of Nuclear Safety, Daejeon, Korea; and **Maria Lopez**, The Pennsylvania State University

Preliminary Evaluation of Slurry Waterproofing Materials on FRP Durability **3:00 PM**
Kiel Von Feldt, Graduate Student, University of Wyoming, Laramie, WY; and **Charles W. Dolan**, University of Wyoming

Discrete Fiber-Reinforced Polymer Systems for Repair of Concrete Structures: Polyurea-Fiber Characterization Results **3:30 PM**
John J. Myers, Associate Professor, Missouri University of Science and Technology, Rolla, MO; and **Natalia Carey**, Missouri University of Science and Technology

Saturday, April 2, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Characterization of FRP Materials and Systems (cont.) **M-MEETING ROOM 4**

Grancrete as Adhesive for Flexural Strengthening of Concrete Structures **4:00 PM**
Aldolfo J. Obregon-Salinas, Graduate Research Assistant, North Carolina State University, Raleigh, NC; and **Sami H. Rizkalla** and **Paul Zia**, North Carolina State University

Characterization of FRP as an Oxygen Barrier **4:30 PM**
Chandra Khoe, PhD Candidate, University of South Florida, Tampa, FL; and **Rajan Sen** and **Venkat Bhethanabotla**, University of South Florida

Saturday, April 2, 2011
6:00 PM - 7:00 PM

FRPRCS-10 Symposium Reception **M-FLORIDA BALLROOM FOYER**
Additional tickets available for $30 per person
Hosted by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Meet and network with other FRPRCS-10 symposium attendees and colleagues as you enjoy beverages and light refreshments.

✓ = separate fee required

Sunday, April 3, 2011
8:00 AM - 9:00 AM

Convention #1 Breakfast **M-MEETING ROOMS 9&10**
Sponsored by the ACI Convention Committee

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

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

Sunday, April 3, 2011
9:00 AM - 12:00 PM

FRPRCS-10: Emerging FRP-Concrete Systems **M-MEETING ROOM 4**
Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: Sami Rizkalla
Distinguished Professor
North Carolina State University
Raleigh, NC

Luc R. Taerwe
Professor
Ghent University
Ghent, Belgium

New and innovative systems using FRP are constantly under development. This session presents several studies that explore the use of new materials for internal reinforcement, new light-weight precast systems, the use of textile-reinforced concrete for constructing a pedestrian bridge, and a new repair system for piles that integrates a cathodic protection system within an FRP wrap.

Innovative Reinforcement for Fabric Formed Concrete Structures **9:00 AM**
John J. Orr, PhD Candidate, University of Bath, Bath, UK; and **Antony Darby**, **Timothy Ibell**, and **Mark Evernden**, University of Bath

Safety Enhancement of RC Bridge Frame Columns Using Bond-Based Damage-Controllable Steel Basalt-Fiber Composite Bars **9:30 AM**
Zhishen Wu, Professor, Ibaraki University, Hitachi, Japan; **Mohamed F. M. Fahmy**, Assiut University; and **Gang Wu**, Southeast University

Design by Testing of Debonding Load in RC Elements Strengthened with EBR FRP Materials **10:00 AM**
Francesca Ceroni, Assistant Professor, University of Sannio, Benevento, Italy; **Maria Pecce**, University of Sannio; and **Emidio Nigro** and **Antonio Bilotta**, University of Naples

Sunday, April 3, 2011
9:00 AM - 12:00 PM

FRPRCS-10: Emerging FRP-Concrete Systems (cont.) **M-MEETING ROOM 4**

Load-Bearing Behavior of Pedestrian Bridge Made of Textile-Reinforced Concrete **10:30 AM**
Christian Kulas, Research Assistant, RWTH Aachen University, Aachen, Germany; and **Josef Hegger** and **Claus Goralski**, RWTH Aachen University

Lightweight Concrete Bridge Deck Precast Panels Reinforced with GFRP Bars **11:00 AM**
Ruifen Liu, PhD Candidate, University of Utah, Salt Lake City, UT; and **Chris P. Pantelides**, **Lawrence D. Reaveley**, and **Brandon T. Besser**, University of Utah

Advances in Corrosion Repair of Piles Using FRP **11:30 AM**
Julio Aguilar, PhD Student, University of Southern Florida, Tampa, FL; and **Rajan Sen**, **Gray Mullins**, and **Danny Winters**, University of South Florida

Sunday, April 3, 2011
9:00 AM - 12:00 PM

FRPRCS-10: FRP Shear Strengthening of RC Beams **M-MEETING ROOM 5**

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: Thanasis Triantafillou
Professor
University of Patras
Patras, Greece

Charles E. Bakis
Distinguished Professor
The Pennsylvania State University
University Park, PA

The shear strength of existing reinforced concrete beams can be enhanced in a number of ways. This session presents papers describing analytical, experimental, and parametric studies undertaken to strengthen reinforced concrete sections using both externally bonded and near-surface-mounted FRP reinforcement.

Shear Strengthening of RC Beams with EB FRP—Evolutive Design Model Versus Code **9:00 AM**

Amir Mofidi, PhD Candidate, University of Quebec, Montreal, QC, Canada; and **Omar Chaallal**, University of Quebec

Shear Strength of Lightweight Reinforced Concrete Beams Strengthened with CFRP Strips **9:30 AM**

Rajai Alrousan, Assistant Professor, Jordan University of Science and Technology, Irbid, Jordan; **Moussa A. Issa**, HBM Engineering Group LLC; and **Mohsen A. Issa** and **Thilan Ovitigala**, University of Illinois

Parametric Studies of the NSM FRP Strips Shear Strength Contribution to a RC Beam **10:00 AM**

Vincenzo Bianco, Post-Doctoral Fellow, Sapienza University of Rome, Rome, Italy; **Joaquim Barros**, University of Minho; and **Giorgio Monti**, Sapienza University of Rome

Parametric Study of Web-Bonded CFRP Shear Reinforcement on Internal Steel Stresses **10:30 AM**

Charles W. Dolan, Professor, University of Wyoming, Laramie, WY; and **Alex S. Larkin** and **Jovan Tatar**, University of Wyoming

Sunday, April 3, 2011
9:00 AM - 12:00 PM

FRPRCS-10: FRP Shear Strengthening of RC Beams (cont.) **M-MEETING ROOM 5**

Shear Strengthening RC T-Beams Using CFRP Laminates and Anchors **11:00 AM**

Yungon Kim, PhD Candidate, University of Texas, Austin, TX; **Kevin T. Quinn**, Haris Engineering; and **Christopher N. Satrom**, **Wassim M. Ghannoum**, and **James O. Jirsa**, University of Texas

Sunday, April 3, 2011
11:00 AM - 5:00 PM

Student FRP Composites and Concrete Construction Competitions **M-GRAND FOYER**

Sponsored by the ACI Florida Suncoast Chapter and ACI Committee S801, Student Activities

Moderator: Lawrence H. Taber
Structural Engineer
Black & Veatch
Kansas City, MO

ACI's nationally recognized student competitions offer students the opportunity to participate in interesting and educational concrete projects. This spring, students will compete in the FRP Composites and Concrete Construction Competitions, where they will design, construct, and test a concrete structure reinforced with fiber-reinforced polymer (FRP) bars to achieve the optimal load-to-weight ratios, predict the ultimate load, and predict the load that will result in a piston deflection of 2.5 mm (0.1 in.).

For more information on the competition rules and eligibility requirements, please visit **www.students.concrete.org**.

Sunday, April 3, 2011
12:00 PM - 2:00 PM

✓**International Lunch** **M-IL TERRAZZO RESTAURANT**
$30 U.S. per person
Sponsored by the ACI International Committee

Speaker: Dr. Jenn-Chuan Chern
Associate Professor
National Taiwan University
Taipei, Taiwan

Due to Typhoon Morakot, a record amount of rainfall—up to 2965 mm (117 in.)—fell in southern Taiwan in August 2009. Combined with untimely high tides, this record-breaking rainfall destroyed almost all roads, bridges, and levees along the river and resulted in several large landslides. Nearly 700 people died and over 8000 indigenous people lost their homes. Dr. Jenn-Chuan Chern, who manages the approximately $5 billion (U.S.) recovery and reconstruction program, will present the strategies and reconstruction efforts for civil infrastructure and community redevelopment in the disaster areas. A holistic approach for incorporating green energy and technologies was adopted for the reconstruction program. The recovery efforts also created employment opportunities for the flood-affected indigenous people with high-quality agriculture, tourism, and industry reflecting local culture and characteristics. The post-disaster reconstruction of Typhoon Morakot in Taiwan will serve as a good example for other countries.

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, April 3, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Fatigue Performance and Anchorage of FRP Systems **M-MEETING ROOM 4**

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

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

Stavroula Pantazopoulou
Professor
Democritus University of Thrace
Xanthi, Greece

The long-term properties of FRP under repetitive or sustained loading are important in design. This session presents three papers that describe findings from experimental studies and empirical modeling related to fatigue and creep. The remaining three papers address anchorage of FRP systems used for the repair of structures using externally bonded FRP sheets or tendons.

Evaluation of Empirical Fatigue Prediction Models for FRP-Strengthened RC Beams **2:00 PM**
Lijuan Cheng, Assistant Professor, University of California, Davis, CA; and **Kanielle Gordon**, University of California

Fatigue Strength Prediction of RC Beams Strengthened in Flexure Using Prestressed NSM CFRP Strips **2:30 PM**
Fadi Oudah, Student, University of Calgary, Calgary, AB, Canada; and **Raafat El-Hacha**, University of Calgary

Creep Behavior and Tensile Properties of GFRP Bars under Sustained Service Loads **3:00 PM**
Brahim Benmokrane, NSERC Research Chair and Professor, University of Sherbrooke, Sherbrooke, QC, Canada; and **Tarik Youssef**, University of Sherbrooke

Quality Control Test for Carbon Fiber-Reinforced Polymer (CFRP) Anchors for Rehabilitation **3:30 PM**
Guillermo D. Huaco, PhD Candidate, University of Texas, Austin, TX; and **James O. Jirsa** and **Oguzhan Bayrak**, University of Texas

Sunday, April 3, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Fatigue Performance and Anchorage of FRP Systems (cont.) **M-MEETING ROOM 4**

An Experimental Study on Improving Anchor Performance for CFRP Tendons **4:00 PM**
Woo-Tai Jung, Researcher, Korea Institute of Construction Technology, Goyang, Korea; **Young-Hwan Park** and **Jong-Sup Park**, Korea Institute of Construction and Technology

Investigation of Efficient Anchorage Systems for Shear and Torsion Retrofitting of Box Girder Bridges **4:30 PM**
Robin Kalfat, Structural Engineer and PhD Student, Swinburne University of Technology, Hawthorn, VIC, Australia; **Riadh Al-Mahaidi**, Swinburne University of Technology; and **Grahme Williams**, Sinclair Knight Merz (SKM)

Sunday, April 3, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Strengthening of Masonry Structures **M-MEETING ROOM 5**

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: Sarah E. Witt
Senior Vice President
Fyfe Company LLC
San Diego, CA

Kiang Hwee Tan
Professor
National University of Singapore
Kent Ridge, Singapore

Unreinforced masonry is vulnerable under loads resulting from seismic activity or blast. This session includes presentations on ACI 440.7R-10, the newly published ACI guideline for strengthening URM walls, and a forthcoming publication on blast-resistant components retrofitted with FRP. Additionally, there is a state-of-the-art review on mechanically fastened FRP strengthening systems that uses a new engineered FRP that can provide immediate strength without the need for surface preparation.

Experimental Studies of Mechanically Fastened FRP Systems: State-of-the-Art **2:00 PM**

Lawrence C. Bank, Professor, City College of New York, New York, NY; **Vicki L. Brown**, Widener University; **Dushyant Arora**, Moffatt & Nichol; **David T. Borowicz**, University of Wisconsin; **Ahmed Godat**, University of Quebec; **Anthony J. Lamanna**, Lamanna Engineering Consultants LLC; **Jaeha Lee**, Korea Institute of Nuclear Safety; **Fabio Matta**, University of South Carolina; **Annalisa Napoli**, University of Salerno; and **Kiang-Hwee Tan**, National University of Singapore

Behavior of FRP-Strengthened Large-Scale Masonry Walls **2:30 PM**

Arash Sayari, PhD Researcher, Kingston University, Kingston, UK; and **Ted Donchev** and **Mukesh Limbachiya**, Kingston University

Masonry Walls Strengthened with Innovative Composites **3:00 PM**

Marco Di Ludovico, Assistant Professor, University of Naples, Naples, Italy; and **Alberto Balsamo**, **Andrea Prota**, and **Gaetano Manfredi**, University of Naples

Sunday, April 3, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Strengthening of Masonry Structures (cont.) **M-MEETING ROOM 5**

Design Guidance for Blast-Resistant Reinforced Concrete and Masonry Components Retrofitted with FRP **3:30 PM**
Charles J. Oswald, Senior Principal, Protection Engineers Consultants, San Antonio, TX; **Khaled El-Domiaty**, Baker Engineering & Risk Consultants; and **Marlon L. Bazan**, Protection Engineering Consultants

ACI Design Guide for Flexural and Shear Strengthening of URM Walls with FRP Systems **4:00 PM**
Gustavo Tumialan, Senior Project Manager, Simpson Gumpertz & Heger Inc., Waltham, MA; **William J. Gold**, BASF Construction Chemicals; **Nestore Galati**, Structural Group Inc.; and **Andrea Prota**, University of Naples

Recent Revisions to Acceptance Criteria for Concrete and Masonry Strengthening Using Externally Bonded FRP Systems (ACI 125) **4:30 PM**
Mahmut Ekenel, Civil Engineer, International Code Council Evaluation Service, Downey, CA; **Brian C. Gerber**, International Code Council Evaluation Service; and **Nestore Galati**, **Silvia V. Rocca**, and **Tarek Alkhrdaji**, Structural Group Inc.

Sunday, April 3, 2011
2:00 PM - 5:00 PM

Getting to the Core of Core Testing **M-SALON 5**
Sponsored by ACI Committee 214, Evaluation of Results of Tests Used to Determine the Strength of Concrete

Session Co-Moderators: Kal R. Hindo
Principal
Kal R. Hindo & Associates
Clearwater, FL

Robert S. Jenkins
Corporate Materials Consultant
Retired
St. Petersburg, FL

Introduction to ACI 214.4R-10, "Guide for Obtaining Cores and Interpreting Compressive Strength Results." Attendees will learn how to establish coring programs for new and existing structures and how to evaluate the data obtained. Presentations will include an explanation of the methods presented in the guide.

Applying ACI 214.4R to Evaluation of Existing Structures **2:00 PM**
Mike Barlett, Professor, University of Western Ontario, London, ON, Canada

Faux Pas in Coring **2:30 PM**
Allyn Luke, New Jersey Institute of Technology, Newark, NJ; and **Woodward L. Vogt**, President, Paradigm Consultants, Inc., Houston, TX

Is the 0.85 Factor Justified for All Concrete Application? **3:00 PM**
Casimir Bognacki, Director of Materials Division, Port Authority of New York & New Jersey, Jersey City, NJ

Planning a Statistic-Based Coring Program for Existing Structures—An Example **3:30 PM**
Bryan R. Castles, Principal and Senior Materials Engineer, Western Technologies, Inc., Phoenix, AZ

Application of ACI 214.4R to Field Experiences in Strength Compliance **4:00 PM**
Al Kaufman, Manager, Technical Services, ConcreteRx, Point Richmond, CA

Sunday, April 3, 2011
2:00 PM - 5:00 PM

Practical Design of Concrete Buildings **M-SALON 4**
Sponsored by ACI Committee 314, Simplified Design of Concrete Buildings

Session Co-Moderators: Mike Mota
Atlantic Regional Manager
Concrete Reinforcing Steel Institute
Williamstown, NJ

JoAnn P. Browning
Professor
University of Kansas
Lawrence, KS

The work of ACI Committee 314 on issues related to the practical design of concrete buildings is presented. This session will consist of several presentations that will address design issues and tools, such as ACI 314.1; the economical impact on the design of concrete buildings of moderate size and height, the practical design of reinforced concrete using design aids, and detailing of seismic-resistant concrete structures.

Guide to a Simplified Design Method for Low-Rise Reinforced Concrete Buildings **2:00 PM**
José M. Izquierdo-Encarnación, Principal, Porticus, San Juan, Puerto Rico

Simplified Design of Concrete Buildings—A Look into the Future **2:25 PM**
James Lai, Retired Structural Engineer, La Canada Flintridge, CA

Practical Design of Non-Prestressed Reinforced Concrete Design Aids **2:50 PM**
Esteban Anzola, Senior Engineer, WSP Cantor Seinuk, New York, NY

Design Aid for Selecting Precast Members **3:15 PM**
Larbi M. Sennour, Executive Vice President, Consulting Engineers Group, Inc., San Antonio, TX

Practical Seismic Design of Concrete Housing **3:40 PM**
Julian Carrillo, Assistant Professor, New Granada Military University, Bogotá, Colombia; and **Sergio Alcocer**, National University of Mexico

Sunday, April 3, 2011
2:00 PM - 5:00 PM

Practical Design of Concrete Buildings (cont.) **M-SALON 4**

Optimizing Economy: Simplifying Loads, Optimizing Members, and Leveling the Design **4:05 PM**
John B. Turner, Greater Southwestern Region Manager, Concrete Reinforcing Steel Institute, Richardson, TX

Seismic Detailing of Buildings **4:30 PM**
Javeed Munshi, Principal Engineer, Bechtel Power Corporation, Frederick, MD

Sunday, April 3, 2011
2:00 PM - 5:00 PM

Precast Concrete Subjected to Blast and Impact Loads **M-MEETING ROOM 1**

Sponsored by ACI Committee 370, Blast and Impact Load Effects

Session Co-Moderators: Eric S. Musselman
Assistant Professor
University of Minnesota
Duluth, MN

Serdar Astralioglu
Research Assistant Professor
University of Florida
Gainesville, FL

This session will provide details of the analysis, design, and performance of precast elements exposed to blast and impact loads. Presentations will include the design considerations, design procedures, and existing resources applicable to the design of precast concrete exposed to blast loads. In addition, current research will be presented detailing the blast and impact resistance of a variety of precast elements.

The objective of this session is to provide presentations that detail the state-of-the-art precast concrete designed to resist blast and impact loads. This includes the current procedures being used by engineers to design precast elements and research aimed at material and design advancements.

Methods for the Blast Analysis of Architectural Precast Concrete **2:00 PM**

Andrew Coughlin, Project Engineer, Hinman Consulting Engineers, San Francisco, CA

Blast Performance of Single-Span Precast Concrete Sandwich Wall Panels **2:30 PM**

Clay J. Naito, Associate Professor, Lehigh University, Bethlehem, PA; and **Bryan Bewick**, Air Force Research Laboratory

Sunday, April 3, 2011
2:00 PM - 5:00 PM

Precast Concrete Subjected to Blast and Impact Loads (cont.) **M-MEETING ROOM 1**

Use of Inelastic Versus Elastic Plate Elements for Complex Precast Panel Design **3:00 PM**
Khaled A. El-Domiaty, Senior Engineer, Baker Engineering & Risk Consultants, Arlington, VA; and **Barry Bingham** and **Jason Florek**, Baker Engineering & Risk Consultants; Baker Engineering & Risk Consultants

Discrete Fiber-Reinforced Polyurea System for Blast and Hazard Mitigation **3:30 PM**
John J. Myers, Associate Professor, Missouri University of Science and Technology, Rolla, MO; and **Natalia Carey**, Missouri University of Science and Technology

Effect of Support Constraints on RC Column Response to Blast Load and Implication on Precast Frame **4:00 PM**
Yong Lu, Professor, University of Edinburgh, Edinburgh, UK

Blast Resistance of Long Carbon and Nylon Fiber-Reinforced Precast Concrete Barriers **4:30 PM**
Eric S. Musselman, Assistant Professor, University of Minnesota, Duluth, MN

Sunday, April 3, 2011
5:15 PM - 6:30 PM

Opening Session & Awards Program **M-GRAND F-J**

The ACI Spring 2011 Convention officially begins during the Opening Session. ACI will recognize over 100 individuals and groups for their contributions to ACI and the concrete industry.

HONORARY MEMBERSHIP

Zdeněk P. Bažant
Nicholas J. Carino
Terence C. Holland
Tony C. Liu
Shunsuke Otani
Richard D. Stehly (posthumously)

FELLOW

Julie K. Buffenbarger
Fernando J. Fernandez
Fred Goodwin
Brian H. Green
Patrick J. Harrison
Mary Beth Deisz Hueste
Shyh-Jiann Hwang
Roger S. Johnston
Allan R. Kenney
William M. Klorman
Jason J. Krohn
Victor C. Li
Faris A. Malhas
Stephen S. Marchese
Tracy Marcotte
Donald M. Marks
Robert A. Nuñez
Carlos E. Ospina
Gustavo J. Parra-Montesinos
John W. Roberts
Koji Sakai
Yixin Shao
Hitoshi Shiohara
Jongsung Sim
David Suchorski
Stephen S. Szoke
Suneel N. Vanikar
Cloyd E. (Joseph) Warnes
Charles A. Weiss Jr.
Michelle L. Wilson

Sunday, April 3, 2011
5:15 PM - 6:30 PM

Opening Session & Awards Program **M-GRAND F-J**

50-YEAR MEMBERS

Hiroyuki Aoyama
Hansraj Ashar
Simeon Beer
Ian M. Dance
Kurt H. Gerstle
Paul Gordon
Roger Green
Zareh B. Gregorian
William Hanuschak
Robert Hodnett
Eugene P. Holland
Jules Houde
Thomas T. C. Hsu
Merl Isaak
James O. Jirsa
Alfred Kaufman
Wataru Koyanagi
Thomas A. McCormick
Carson K. C. Mok
Sharad (Steve) Parikh
Kenneth H. Pukita
Charles H. Raths
John E. Sadler
Phil Seabrook
Dale M. Stevens
R. Sundaram
Warren H. Trester
Leslie Vides
René Walther
Arnold Wilson

PERSONAL AWARDS

ARTHUR R. ANDERSON MEDAL

Robert Douglas Hooton

ROGER H. CORBETTA CONCRETE CONSTRUCTOR AWARD

Michael J. Schneider

JOE W. KELLY AWARD

Abdeldjelil Belarbi

HENRY L. KENNEDY AWARD

William E. Rushing Jr.

Sunday, April 3, 2011
5:15 PM - 6:30 PM

Opening Session & Awards Program **M-GRAND F-J**

ALFRED E. LINDAU AWARD
Colombian Association for Earthquake Engineering (AIS)

HENRY C. TURNER MEDAL
Frank Anthony Kozeliski

CHARLES S. WHITNEY MEDAL
Computers & Structures, Inc.

DISTINGUISHED ACHIEVEMENT AWARD
Florida Concrete and Products Association (FC&PA)

PAPER AWARDS

WASON MEDAL FOR MOST MERITORIOUS PAPER
Selçuk Saatci
Frank J. Vecchio

WASON MEDAL FOR MATERIALS RESEARCH
Kyle A. Riding
Jonathan L. Poole
Anton K. Schindler
Maria Juenger
Kevin J. Folliard

ACI CONSTRUCTION AWARD
Bruce A. Suprenant
Ward R. Malisch

CHESTER PAUL SIESS AWARD FOR EXCELLENCE IN STRUCTURAL RESEARCH
Shih-Ho (Simon) Chao
Antoine E. Naaman
Gustavo J. Parra-Montesinos

ACI DESIGN AWARD
Mark B. Stevenson
Leo Panian

Sunday, April 3, 2011
5:15 PM - 6:30 PM

Opening Session & Awards Program **M-GRAND F-J**

CHAPTER ACTIVITIES AWARD

Mark A. Cheek
Alejandro Durán-Herrera
Dawn Miller
Guillermo Santana

ACI YOUNG MEMBER AWARD FOR PROFESSIONAL ACHIEVEMENT

Rishi Gupta
Devin K. Harris
Anthony J. Lamanna

DELMAR L. BLOEM DISTINGUISHED SERVICE AWARD

Fred Goodwin
Andrew Scanlon
Carlos Videla

CERTIFICATION PROGRAMS AWARD

Khaled Walid Awad
Alfred Kaufman
John J. Schemmel

WALTER P. MOORE, JR. FACULTY ACHIEVEMENT AWARD

Stephan A. Durham

2010 EXCELLENT CHAPTERS

Arizona
Central & Southern Mexico
Georgia
Illinois
India
Iran
Kansas
Louisiana
Missouri
New Jersey
New Mexico
Northeast Texas
Peru
Pittsburgh Area

Sunday, April 3, 2011
5:15 PM - 6:30 PM

Opening Session & Awards Program **M-GRAND F-J**

2010 OUTSTANDING CHAPTERS

Carolinas
Central Texas
Concrete Industry Board, New York City
Guatemala
Indiana
Intermountain
Las Vegas
Lebanon
Mongolia
Nebraska
Northeast Mexico
Northern CA/Western NV
Ontario
San Antonio
San Diego International
Southern California

ACI EXCELLENT UNIVERSITY AWARD

Arizona State University
Florida International University
Middle Tennessee State University
Missouri S&T University
North Carolina State University
Purdue University
Texas State University - San Marcos
Universidad Autónoma de Nuevo León
University of Arkansas
University of Illinois at Urbana-Champaign
University of Kansas
University of Texas at Austin

ACI OUTSTANDING UNIVERSITY AWARD

British Columbia Institute of Technology
Instituto Tecnologico de la Paz
Iowa State University
New Jersey Institute of Technology
North Dakota State University
Rose-Hulman Institute of Technology
Ryerson University
Tennessee Technological University
Texas A&M University
Universidad Rafael Landivar Quetzaltenango
University of Colorado Denver
University of Michigan
University of Minnesota, Duluth
University of Toronto
Villanova University

Sunday, April 3, 2011
6:30 PM - 7:30 PM

Opening Reception **M-PATIO/RIVERWALK**
Sponsored by the ACI Florida Suncoast Chapter
*In the event of inclement weather, the Opening Reception will be held in **M-Grand A-E**.*

After the Opening Session, meet your colleagues and friends for a beverage from the cash bar and light refreshments on the patio and riverwalk. It's a great place to catch up with friends, network with concrete professionals, and meet new convention attendees. This is a networking opportunity you won't want to miss!

Sunday, April 3, 2011
7:30 PM - 10:00 PM

123 Forum: What is the Current State of Epoxy-Coated Reinforcing Steel? **M-MEETING ROOM 1**
Sponsored by ACI Committee 123, Research and Current Developments

Session Moderator: Mohammad S. Khan
Senior Vice President
Professional Service Industries, Inc.
Herndon, VA

Introduction **7:30 PM**
Mohammad S. Khan, Senior Vice President, Professional Service Industries, Inc., Herndon, VA

Changes that Improve Performance—A Review of 40 Years of Development of Epoxy-Coated Reinforcing Steel **7:40 PM**
David McDonald, Managing Director, Epoxy Interest Group of CRSI, Schaumburg, IL

VDOT Implementation of Corrosion-Resistant Reinforcement **7:50 PM**
Michael M. Sprinkel, Associate Director, Virginia Center for Transportation Innovation and Research, Charlottesville, VA

Long-Term Performance of Epoxy-Coated Reinforcing Steel **8:00 PM**
Paul D. Krauss, Principal, Wiss, Janney, Elstner Associates, Northbrook, IL

Evaluation of Multiple Corrosion Protection Strategies Used in Conjunction with Epoxy-Coated Reinforcement **8:10 PM**
David Darwin, Ackers Distinguished Professor and Director of Structural Engineering and Materials Laboratory, University of Kansas, Lawrence, KS

Corrosion of Epoxy-Coated Reinforcing Steel in Florida Marine Bridges **8:20 PM**
Alberto A. Sagüés, Distinguished University Professor, University of South Florida, Tampa, FL

An Independent Perspective of ECR Utility as Corrosion-Resistant Reinforcement **8:30 PM**
William H. Hartt, Professor Emeritus, Florida Atlantic University, Boca Raton, FL

Questions, Answers, and Discussion **8:40 PM**

Sunday, April 3, 2011
7:30 PM - 10:00 PM

Hot Topic Session: Concrete Houses—Perfect Solution for Durable Residences **M-SALON 5**
Sponsored by the Hot Topic Committee

Session Moderator: José M. Izquierdo-Encarnación
Principal
Porticus
San Juan, Puerto Rico

The Best Time for Concrete Homes is Now **7:30 PM**
James A. Farny, Program Manager, Portland Cement Association, Skokie, IL

Custom Residential Concrete Design: Rationalism versus Romanticism **7:50 PM**
Jonathan Parks, Architect and Owner, Jonathan Parks Architect, Tampa, FL

ACI 332—Code Requirements for Residential Concrete Construction **8:10 PM**
James R. Baty, Technical Director, Concrete Foundation Association, Mount Vernon, IA

Alternate Structural Provisions for One- and Two-Story Residential Buildings **8:30 PM**
José M. Izquierdo-Encarnación, Principal, Porticus, San Juan, Puerto Rico

Living in a Concrete Home **8:50 PM**
Robert S. Jenkins, Corporate Materials Consultant, Retired, St. Petersburg, FL

Questions, Comments, and Discussion **9:10 PM**

Sunday, April 3, 2011
9:00 PM - 10:30 PM

Student and Young Professional Networking Event **M-CHAMPIONS RESTAURANT**

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

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

Monday, April 4, 2011
6:30 AM - 8:15 AM

Workshop for Technical Committee Chairs **M-GRAND F**
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 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, April 4, 2011
7:00 AM - 8:30 AM

Speaker Development Breakfast **M-GRAND G&H**
Sponsored by ACI Committee S802, Teaching Methods and Educational Materials

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

Fred Meyer
Associate Professor
United States Military Academy
West Point, NY

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

Topic: It's Okay to Interact with Your Audience

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

The topic is interacting with your audience. Not only is it okay, but it can be quite effective. We will discuss a variety of ways to manage this interaction and how to choose a technique that best suits your objectives. We will also discuss how to effectively interact with your audience in a variety of venues, including ACI technical presentations.

Monday, April 4, 2011
9:00 AM - 12:00 PM

Florida Concrete, Part 1 **M-SALON 5**
Sponsored by the ACI Florida Suncoast Chapter

Session Moderator: Said Iravani
President
Iravani, P.A.
Tampa, FL

Rehabilitation of the Geiger Creek Bridge **9:00 AM**
Antonio Deluca, Post-Doctoral Associate, University of Miami, Coral Gables, FL; **G. Loreto**, **Matteo Di Benedetti**, and **Antonio Nanni**, University of Miami

Guideway Deck Design for the Airport Link Project in Miami, FL **9:30 AM**
Mike Oliphant, Project Manager, Baker Concrete Construction Company, Inc., Miami, FL

High-Performance Concrete at the Bridge of Lions in the Nation's Oldest City (St. Augustine, Florida) **10:00 AM**
Victor H. Smith, North Central Concrete Products Quality Control Manager, Tarmac America, LLC, Port Orange, FL

High-Strength Concrete throughout South Florida **10:30 AM**
Francisco J. Suarez, Field Marketing Development Manager, Miami, FL

Computer-Aided Design of High-Speed-Rail Bridges **11:00 AM**
Dorian Janjics, Vice President of Bridge Engineering Software, Bentley Systems, Inc., Exton, PA

The Fly Ash Solution: Materials for Life **11:30 AM**
Jorge Tercero, Manager of Technical Resources, Separation Technologies, LLC, Medley, FL

Monday, April 4, 2011
9:00 AM - 12:00 PM

FRPRCS-10: Applications of FRP Systems in Reinforced Concrete **M-MEETING ROOM 4**

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: John P. Busel
Director, Composites Growth Initiative
American Composites Manufacturers Association
Tuckahoe, NY

Antonio Nanni
Professor
University of Miami
Coral Gables, FL

This session presents several experimental studies that explore new materials and applications of FRP. These include use as permanent formwork for concrete slabs, FRP-filled tubes, the use of basalt fiber-reinforced bars as column reinforcement, and the use of self-consolidating concrete with CFRP tendons. Additionally, there will be a presentation related to the repair of prestressed concrete girders using CFRP post-tensioned rods.

Permanent Participating FRP Formwork for Concrete Floor Slabs **9:00 AM**

John J. Orr, PhD Candidate, University of Bath, Bath, UK; and **Timothy J. Ibell**, **Xian Gai**, **Antony Darby**, and **Mark Evernden**, University of Bath

Influence of Boundary Conditions and Connections on the Strength of Concrete-Filled FRP Tubes under Bending and Shear **9:30 AM**

Pedram Sadeghian, Post-Doctoral Fellow, Queen's University-Kingston, Kingston, ON, Canada; and **Sarah Zakaib** and **Amir Z. Fam**, Queen's University-Kingston

Parametric Analysis and Experimental Study on Concrete Columns Reinforced by Steel-BFRP Composite Bars **10:00 AM**

Gang Wu, Dean and Professor, Southeast University, Nanjing, China; and **Zeyang Sun**, **Zhishen Wu**, and **J. B. Hao**, Southeast University

Monday, April 4, 2011
9:00 AM - 12:00 PM

FRPRCS-10: Applications of FRP Systems in Reinforced Concrete (cont.) **M-MEETING ROOM 4**

Axial Behavior of Slender Concrete-Filled FRP-Tube Columns Reinforced with Steel and Carbon-FRP Bars **10:30 AM**
Radhouane Masmoudi, Professor, University of Sherbrooke, Sherbrooke, QC, Canada; and **Hamdy Mohamed**, University of Sherbrooke

Flexural Behavior of GFRP-RC Slabs Post-Tensioned with CFRP Tendons **11:00 AM**
Martin P. Noel, Graduate Student, University of Waterloo, Waterloo, ON, Canada; and **Khaled A. Soudki** and **Ahmed K. El-Sayed**, University of Waterloo

Prestressed Concrete Girder Repair with CFRP Post-Tensioned Rods **11:30 AM**
Clayton A. Burningham, PhD Candidate, University of Utah, Salt Lake City, UT; and **Chris P. Pantelides** and **Lawrence D. Reaveley**, University of Utah

Monday, April 4, 2011
9:00 AM - 12:00 PM

FRPRCS-10: Performance of FRP Systems Subject to Extreme Events **M-MEETING ROOM 5**
Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: John J. Myers
Associate Professor
Missouri University of Science and Technology
Rolla, MO

Vicki L. Brown
Associate Professor
Widener University
Chester, PA

The performance of FRP at elevated temperatures is of great interest to building and transportation officials. This session presents findings from several experimental studies that examined the response of elements in which FRP was used as internal, externally bonded, or near-surface-mounted reinforcement. Additionally, there are two presentations relating to the use of FRP for seismic strengthening.

FRP Versus Fiber-Reinforced Cementitious Mortar Systems at Elevated Temperature **9:00 AM**
Luke A. Bisby, Senior Research Fellow, University of Edinburgh, Edinburgh, UK; and **Tim Stratford**, **Joanna Smith**, and **Sarah Halpin**, University of Edinburgh

Tests at High Temperatures on Concrete Slabs Reinforced with Bent FRP Bars **9:30 AM**
Emidio Nigro, Associate Professor, University of Naples, Naples, Italy; and **Giuseppe Cefarelli**, **Antonio Bilotta**, **Gaetano Manfredi**, and **E. Consenza**, University of Naples

Fire Testing of RC Beams Strengthened with NSM Reinforcement **10:00 AM**
Aniello Palmieri, PhD Student, Ghent University, Ghent, Belgium; and **Stijn Matthys** and **Luc R. Taerwe**, Ghent University

Monday, April 4, 2011
9:00 AM - 12:00 PM

FRPRCS-10: Performance of FRP Systems Subject to Extreme Events (cont.) **M-MEETING ROOM 5**

Influence of High Temperature on Bond between NSM FRP Bars/Strips and Concrete **10:30 AM**
Aniello Palmieri, PhD Student, Ghent University, Ghent, Belgium; **Stijn Matthys** and **Luc R. Taerwe**, Ghent University

Seismic Retrofitting of RC Shear Wall with Externally Bonded CFRP **11:00 AM**
Michel Laurent, Associate Professor, Lyon University, Villeurbanne, France; and **S. Qazi**, **Emmanu Ferrier**, and **Patrice Hameli**, Lyon University

The Effect of Previous Damage on the Effectiveness of FRP-Jacketing for Seismic Repairs of RC Structural Members **11:30 AM**
Stavroula J. Pantazopoulou, Professor, Demokritus University of Thrace, Xanthi, Greece; and **Georgia E. Thermou** and **Souzana P. Tastani**, Demokritus University of Thrace

Monday, April 4, 2011
9:00 AM - 12:00 PM

Performance-Based Specifications and Testing, Part 1 **M-SALON 4**
Sponsored by ACI Committees 201, Durability of Concrete, and 236, Material Science of Concrete

Session Co-Moderators: Muhammed P. A. Basheer
Professor
Queen's University
Belfast, Northern Ireland, UK

Karthik Obla
Vice President, Technical Services
National Ready Mixed Concrete Association
Silver Spring, MD

The performance of concrete is currently on the basis of prescriptive specification of minimum grade, minimum binder content, and maximum water-binder ratio for a series of well-defined environmental classes. Although numerous attempts have been made to introduce performance-based specifications, this has been hampered by the lack of reliable, consistent, and standardized test procedures for evaluating concrete performance. It is widely recognized that an appropriate testing technology has not been sufficiently developed to satisfy a performance-based philosophy. In this respect, there is a widespread recognition that central to the concept of performance-based specifications is the requirement for reliable and repeatable test methods that can evaluate the required performance characteristics along with performance compliance limits, which should take into account the inherent variability of the test method. It is evident that test procedures are required such that those properties of concrete that ensure long-term durability can be determined very early on in the life of a structure and that the concrete will meet specified requirements.

The principal aim of this session is to review the performance-based specification of concrete and to identify where faster progress can be made to take this concept to standardization. Therefore, the specific objectives of the session are as follows: to present on performance-based specifications and testing from different parts of the world; to identify potential approaches that have been successfully used to apply the performance-based specification methodology in the industry; and to identify research and technology transfer needs that can form the basis of the activities of the two technical committees involved.

Monday, April 4, 2011
9:00 AM - 12:00 PM

Performance-Based Specifications and Testing, Part 1 (cont.) **M-SALON 4**

Durability Performance-Based Specifications and Control: the Swiss Approach **9:00 AM**
Roberto J. Torrent, Civil Engineer, Materials Advanced Services, Ltd., Buenos Aires, Brazil

Quality Control and Performance Assessment Methods for Concrete Structures **9:30 AM**
Sreejith Nanukuttan, Lecturer, Queen's University, Belfast, Northern Ireland, UK; **P. A. Muhammed Basheer**, **Lulu Basheer**, **N. Holmes**, and **Sudarsan Srinivasan**, Queen's University Belfast; and **Gerry Starrs** and **William J. McCarter**, Heriot-Watt University

Measuring Water Permeability and Ion Diffusivity of Cracks in Concrete **10:00 AM**
Alireza Akhavan, PhD Candidate, The Pennsylvania State University, State College, PA; and **Farshad Rajabipour**, The Pennsylvania State University

Toward a Rapid QC/QA Test for Transport Performance **10:30 AM**
Robert Spragg, Undergraduate Research Assistant, Purdue University, West Lafayette, IN; **Tommy Nantung**, Indiana Department of Transportation; and **W. Jason Weiss** and **Javier Castro**, Purdue University

Evaluation of the Influence of Accelerated Chloride Transport Test Methods on Chloride Binding and Material Microstructure **11:00 AM**
Jitendra A. Jain, Post-Doctoral Research Associate, Clarkson University, Potsdam, NY; and **Narayanan Neithalath**, Arizona State University

Surface Resistivity as a Performance Test for Transport Properties **11:30 AM**
Andrew J. Boyd, Professor, McGill University, Montreal, QC, Canada; **Mario A. Paredes**, Florida Department of Transportation; and **Francisco Presuel-Moreno**, Florida Atlantic University

Monday, April 4, 2011
9:00 AM - 12:00 PM

Research in Progress **M-MEETING ROOM 1**
Sponsored by ACI Committee 123, Research and Current Developments

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

Thomas Schumacher
Assistant Professor
University of Delaware
Newark, DE

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

James Instruments Awardee Presentation **9:00 AM**
Low-Cost Piezoceramic Sensors for Health Monitoring of Concrete Structures
Seong-Hoon Kee, PhD Candidate, University of Texas, Austin, TX

Blast Protection of Structures Using Cellular Cement Foams **9:10 AM**
Kolluru V. L. Subramaniam, Professor, Indian Institute of Technology, Hyderabad, India

Rapid Repair of Severely Damaged Columns under Combined Loading with Externally-Bonded CFRP **9:24 AM**
Ruili He, Graduate Research Assistant, Missouri University of Science and Technology, Rolla, MO; and **Lesley Sneed**, Missouri University of Science and Technology

Experimental Progressive Collapse Testing of Reinforced Concrete Frames **9:38 AM**
Sarah L. Orton, Assistant Professor, University of Missouri, Columbia, MO

Optimal Strut-and-Tie Models Using the Full Homogenization Optimization Method **9:53 AM**
Hernán Santa-Maria, Assistant Professor, Pontificia Universidad Catolica de Chile, Santiago, Chile; and **Juan Pablo Herranz**, **Sergio Gutiérrez**, and **Rafael Riddell**, Pontificia Universidad Catolica de Chile

Monday, April 4, 2011
9:00 AM - 12:00 PM

Research in Progress (cont.) **M-MEETING ROOM 1**

Advanced Construction Stage Analysis of Reinforced Concrete High-Rise Building **10:07 AM**
Taehun Ha, Principal Researcher, Daewoo Institute of Construction Technology, Gyeongi-Do, Korea; and **Bohwan Oh** and **Sungho Lee,** Daewoo Institute of Construction Technology

Optimization of Ultra High-Performance Concrete Filled Fiber-Reinforced Polymer Tube (UHPCFFT) System as a Viable Alternative to Conventional RC Columns **10:22 AM**
Pedram Zhorevand, Doctoral Candidate, Florida International University, Miami, FL; and **Amir Mirmiran**, Florida International University

Preliminary Collapse Assessment of the Torre Alto Rio Building in the Mw = 8.8 February 27, 2010, Chile Earthquake **10:36 AM**
Zeynep Tuna, PhD Candidate, University of California, Los Angeles, LA; and **John W. Wallace**, University of California

Analyzing Different Environmental Conditions for Drying Shrinkage **10:50 AM**
Tyler Deboodt, Graduate Research Assistant, Oregon State University, Corvallis, OR; and **Tengfei Fu** and **Jason H. Ideker**, Oregon State University

Predicting Long-Term Durability of Concretes with Recycled Concrete as Coarse Aggregates **11:05 AM**
Jitendra Jain, Post Doctoral Research Associate, Purdue University, West Lafayette, IN; **Kho Verian**, **Nancy Whiting**, and **Jan Olek**, Purdue University

Nondestructive Evaluation of Structures Affected by Alkali-Silica Reaction and Delayed Ettringite Formation **11:19 AM**
Eric R. Giannini, Graduate Research Assistant, University of Texas, Austin, TX; and **Kerry Kreitman** and **Zach Webb**, University of Texas

Characteristics of a Cementitious Waste Form (Cast Stone) for Immobilization of Secondary Nuclear Wastes **11:34 AM**
Chul-Woo Chung, Cement Scientist/Chemist, Pacific Northwest National Laboratory, Richland, WA

A Discussion of Water Absorption and Critical Degree of Saturation as it Relates to Freeze-Thaw Damage in Concrete Pavement Joints **11:48 AM**
Westing Li, PhD Student, Southeast University, Nanjing, China; and **Mohammad Pour-Ghaz**, **Javier Castro**, and **Jason Weiss**, Purdue University

Monday, April 4, 2011
12:00 PM - 2:00 PM

✓**Student Lunch** **M-GRAND F**

$35 U.S. per person; FREE to students who preregister

Sponsored by Baker Concrete Construction Company, Inc.

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Coordinated by the ACI Florida Suncoast Chapter and ACI Committee S801, Student Activities

Speaker: Santanu Das
Vice President of
Integrated Engineering
Bentley Systems, Inc.
Yorba Linda, CA

Featured speaker Santanu Das, Vice President of Integrated Engineering at Bentley Systems, Inc., will give a presentation on "Advancing Your Position in the Design Workflow through Software Interoperability." The presentation will review traditional strategies for success and discuss the role of software technology in business today and how constantly evolving technology can give young engineers an opportunity to contribute to a business' success. Highlighted topics include: heterogeneous software environments that exist in the AEC industry, the difficulties this creates, and the strategies and technologies available to manage and minimize these difficulties. Helping a business confront these challenges can help you stand out from the crowd. Awards from the FRP Composites and Concrete Construction Competitions will also be presented.

PREREGISTRATION IS REQUIRED TO ATTEND.

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

✓ = separate fee required

Monday, April 4, 2011
1:00 PM - 2:00 PM

Chapter Forum **W-STEELE**

Sponsored by the Chapter Activities Committee

Three chapter representatives will share their experiences and provide demonstrations of Internet-based software applications designed to make chapter management and event marketing easier and more professional. Topics such as e-mail marketing, online event registration, name badges, and membership management will be covered. This is not a technical computer presentation. If you know how to use the Internet and e-mail, you'll be able to use these software applications to more professionally and effectively manage and market your chapter's activities.

Monday, April 4, 2011
2:00 PM - 5:00 PM

Bridge Survivability under Extreme Multi-Hazard Loading **M-SALON 4**

Sponsored by ACI Committee 341, Earthquake-Resistant Concrete Bridges

Session Co-Moderators: Kevin R. Mackie
Assistant Professor
University of Central Florida
Orlando, FL

Robert B. Anderson
Senior Structural Engineer
URS Corporation
Tampa, FL

Concrete bridges are subject to numerous natural and manmade hazards in their regular operating environments. In addition to seismic hazards to bridges in earthquake-prone regions, presentations focus on extreme hazards (or multi-hazards), including wind, wave, surge, fire, scour, and blast/impact, that affect the design or performance of concrete bridges.

While earthquake-resistant design has received considerable attention in ASCE-7 and many recent design codes/guidelines, there is less high-fidelity information on wind, wave, and scour and some challenging manmade hazards, such as blast/impact. The session objective is to showcase some of the progress being made in quantifying other extreme hazards to concrete bridges.

Assessment of Bridge Pier Collapse under Extreme Event Impact Loading **2:00 PM**

Michael Davidson, Student, University of Kentucky, Lexington, KY; and **Gary R. Consolazio**, Associate Professor, University of Florida, Gainesville, FL

Design and Detailing Guidelines for Reinforced Concrete Bridge Columns Subjected to Blast Loads **2:30 PM**

Eric B. Williamson, Associate Professor, University of Texas, Austin, TX

Monday, April 4, 2011
2:00 PM - 5:00 PM

Bridge Survivability under Extreme Multi-Hazard Loading (cont.) **M-SALON 4**

Dynamic Response of a Large-Scale Prestressed Concrete Girder Bridge Subjected to Hurricane Wave Forces **3:00 PM**
Thomas Schumacher, Assistant Professor, University of Delaware, Newark, DE; **Christopher C. Higgens**, **Christopher Bradner**, and **Daniel Cox**, Oregon State University

Behavior of Superstructure-to-Substructure Connections under Simulated Hurricane Wave-Induced Loads **3:30 PM**
Christopher C. Higgins, Professor, Oregon State University, Corvallis, OR; **Jora B. Lehrman**, General Services Administration; and **Daniel Cox**, Oregon State University

Simulation of Vehicular Impacts on Concrete Bridge Piers **4:00 PM**
Anil K. Agrawal, Professor, City College of New York, New York, NY

Earthquake Shake-Table Testing of a Full-Scale Column **4:30 PM**
Jose I. Restrepo, Professor, University of California-San Diego, La Jolla, CA

Monday, April 4, 2011
2:00 PM - 5:00 PM

Florida Concrete, Part 2 **M-SALON 5**
Sponsored by the ACI Florida Suncoast Chapter

Session Moderator: Jonathan W. Sink
Senior Geotechnical Manager and
Assistant Director of Operations
Gannett Fleming
Largo, FL

Surface Resistivity as an Electrical Indicator of Chloride Penetration Resistance in Concrete and Its Potential Use in Performance Specifications **2:00 PM**
Christopher C. Ferraro, Structural Materials Research Engineer, Florida Department of Transportation, Gainesville, FL; and **Mario A. Paredes**, Florida Department of Transportation

Development of a Self-Consolidating Concrete Having Minimal Embodied Carbon Using Lime-Activated Slag Cement Supersulfated with Phosphogypsum or Cement Grade Gypsum **2:30 PM**
Joe D. Wills, PhD Student, University of Florida, Gainesville, FL

Aggregate Distribution of Hardened Concrete Products **3:00 PM**
Ghulam Mujtaba, State Prestressed Concrete Engineer, Florida Department of Transportation, Gainesville, FL

Design of an Economical Foamed Grout for Remediation of Sinkholes **3:30 PM**
Ross T. McGillivray, Chief Engineer, Ardaman & Associates, Inc., Tampa, FL

Forecasting Corrosion of Steel in Concrete in Florida Marine Bridges **4:00 PM**
Alberto A. Sagüés, Distinguished Professor, University of South Florida, Tampa, FL

Performance of Concrete Structures in High-Velocity Winds **4:30 PM**
Diep T. Tu, Director of Engineering, Florida Concrete and Products Association, Inc., Orlando, FL

Monday, April 4, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Durability of FRP Systems **M-MEETING ROOM 4**
Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: Abdeldjelil Belarbi
Distinguished Professor
University of Houston
Houston, TX

Brahim Benmokrane
Professor
University of Sherbrooke
Sherbrooke, QC, Canada

The durability of FRP used as internal reinforcement or when externally bonded is critically important. This session presents six papers that address aspects of durability research that relate to the performance of new types of reinforcement in corrosive acidic and alkaline environments, the effect of freezing and thawing on deck slabs, and the FRP-concrete bond. A new testing protocol and an alternative design approach are also presented.

Durability Study of GFRPP Rebar in Alkali, Acid, and Salt Solution **2:00 PM**
Chuan Wang, Assistant Professor, Harbin Institute of Technology, Harbin, China; and **Guijun Xian** and **Jinping Ou**, Harbin Institute of Technology

Effect of Severe Environmental and Loading Conditions on GFRP-RC Bridge Deck Slabs **2:30 PM**
Ehab F. El-Salakawy, Associate Professor, University of Manitoba, Winnipeg, MB, Canada; and **Amr El-Ragaby**, University of Manitoba

Effects of Freeze-Thaw Cycling and Sustained Load on FRP-Concrete Interface **3:00 PM**
Jiawei Shi, PhD Candidate, Southeast University, Nanjing, China; and **Hong Zhu**, **Zhishen Wu**, and **Gang Wu**, Southeast University

Durability Design Approach for GFRP Bar Reinforced Concrete (RC) Members **3:30 PM**
Jianwei Huang, Senior Project Engineer, SDR Engineer Consultants, Inc., Tallahassee, FL; and **Riyad S. Aboutaha**, Syracuse University

Monday, April 4, 2011
2:00 PM - 5:00 PM

FRPRCS-10: Durability of FRP Systems (cont.) **M-MEETING ROOM 4**

Evaluation of Time- and Temperature-Dependent Deformation of FRP Bonded to Concrete **4:00 PM**
Yoseok Jeong, PhD Student, The Pennsylvania State University, State College, PA; and **Anurag Jaipuriar**, **Maria M. Lopez**, and **Charles E. Bakis**, The Pennsylvania State University

Testing Protocol for Bonded FRP Durability **4:30 PM**
Trey Hamilton, Associate Professor, University of Florida, Gainesville, FL; **Elliot P. Douglas**, University of Florida; and **Charles W. Dolan** and **Jennifer E. Tanner**, University of Wyoming

Monday, April 4, 2011
2:00 PM - 5:00 PM

FRPRCS-10: FRP Strengthening of Concrete Structures **M-MEETING ROOM 5**

Sponsored by ACI Committee 440, Fiber-Reinforced Polymer Reinforcement

Session Co-Moderators: Michael W. Lee
Principal
Wiss, Janney, Elstner, Associates, Inc.
Dallas, TX

Mark F. Green
Professor
Queen's University
Kingston, ON, Canada

Strengthening of concrete structures using externally bonded FRP is the most common application of FRP. This session provides presentations that describe different strengthening methods using mechanically fastened FRP and bonded FRP laminates, fabrics, and near-surface-mounted strips. An innovative field repair of a major bridge is described.

Flexural Behavior of Mechanically Fastened FRP-Strengthened Concrete Members **2:00 PM**
Vicki L. Brown, Associate Professor, Widener University, Chester, PA; **Andrew Dinh**, Pagnotta Engineering, Inc.; and **Giovanna Iacono**, Stantec, Inc.

Strength and Deflection Enhancement of RC Slabs with Anchored FRP Strengthening **2:30 PM**
Scott T. Smith, Assistant Professor, University of Hong Kong, Hong Kong, China; **S. H. Hu**, University of Hong Kong; **S. J. Kim**, ICC Group; and **Rudolf Seracino**, North Carolina State University

Tension and Compression Strengthening of RC Members by CFRP Composite Fabrics **3:00 PM**
Cheng-Tzu Hsu, Professor, New Jersey Institute of Technology, Newark, NJ; and **Wonsiri Punurai**, Mahidol University

Experimental and Numerical Analysis of RC Two-Span Slabs Strengthened with NSM CFRP Laminates **3:30 PM**
Glaucia Dalfre, PhD Student, University of Minho, Guimarães, Portugal; and **Joaquim Barros**, University of Minho

Monday, April 4, 2011
2:00 PM - 5:00 PM

FRPRCS-10: FRP Strengthening of Concrete Structures (cont.) **M-MEETING ROOM 5**

NSM FRP Strips Shear Strength Contribution to a RC Beam: A Design Procedure **4:00 PM**
Vincenzo Bianco, Post-Doctoral Fellow, Sapienza University of Rome, Rome, Italy; **Joaquim A. O. Barros**, University of Minho; and **Giorgio Monti**, Sapienza University of Rome

The West Gate Bridge: Strengthening of a 20th Century Bridge for 21st Century Loading **4:30 PM**
G. Williams, Consulting Engineer, SKM Consulting, Elwood, VIC, Australia; and **Riadh S. Al-Mahaidi** and **Robin Kalfat**, Swinburne University of Technology

Monday, April 4, 2011
2:00 PM - 5:00 PM

Performance-Based Requirements for Concrete and Sustainability, Part 1 **M-MEETING ROOM 1**
Sponsored by ACI Committees 130, Sustainability of Concrete, and 329, Performance Criteria for Ready Mixed Concrete

Session Moderator: Kenneth B. Rear
Vice President of Research & Support
KBR Resources, Inc.
Holmes Beach, FL

Although sustainability is not the sole driver for developing performance-based specification of concrete, there is certainly a connection. This session will look into what a performance-based specification of concrete is and how it can foster innovation and greater levels of concrete sustainability.

Participants will gain an understanding of what the industry is doing to develop a performance-based alternative for concreting. In addition, participants will gain an understanding of the interrelationship of performance-based concrete and sustainability and gain an understanding of how performance-based concrete affects the various stakeholders in a construction project. Finally, attendees will learn about what ACI is doing to develop and promote the performance criteria for ready mixed concrete.

What is Performance-Based Concrete? **2:00 PM**
Kenneth B. Rear, Vice President of Research & Support, KBR Resources, Inc., Holmes Beach, FL

Overview of ACI ITG8-10 Report, Performance-Based Requirements for Concrete **2:40 PM**
Nicholas J. Carino, Concrete Materials Consultant, Retired, Chagrin Falls, OH

Can Performance-Based Concrete Be Tested? **3:30 PM**
R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada; **John A. Bickley**, John A. Bickley Associates, Ltd.; and **Kenneth C. Hover**, Cornell University

Case Study in Performance-Based Specifications—New U.S. Navy Performance-Based Specification (USFG-03 31 29) **4:20 PM**
Paul G. Tourney, Vice President, Tourney Consulting Group, LLC, Kalamazoo, MI

Monday, April 4, 2011
5:00 PM - 6:00 PM

Women in ACI Reception **W-GARDEN FOYER**

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 available.

Monday, April 4, 2011
6:00 PM - 8:00 PM

Korean Concrete Institute Dinner
(Invitation only)

W-O'KNIGHT

The Korean Concrete Institute (KCI) is holding a banquet to promote collaboration with Korean practitioners. Participants will be updated on KCI activities.

Monday, April 4, 2011
8:00 PM - 10:00 PM

Chapter Officer Networking Event **M-CHAMPIONS RESTAURANT**
Sponsored by the ACI Chapter Activities Committee

The ACI Chapter Activities Committee is hosting a networking mixer for all chapter officers attending the convention on Monday, April 4, at Champions Sports Bar in the Marriott Tampa Waterside Hotel & Marina. Meet and mingle with other chapter officers to discuss and share ideas in a fun and casual environment. Attendees will be eligible to win a free convention registration for the Fall 2011 Convention in Cincinnati, OH. Champions Restaurant will offer food and drink specials during this event.

Tuesday, April 5, 2011
9:00 AM - 12:00 PM

Economics of SCC **M-SALON 4**
Sponsored by ACI Committee 237, Self-Consolidating Concrete

Session Moderator: Joseph A. Daczko
Product Line Manager
BASF Construction Chemicals
Beachwood, OH

This session will review the economic benefits of using SCC in various applications and its benefits to the concrete construction industry. The presenters will provide details of where savings and value can be obtained through the use of this technology.

Economics of Self-Consolidating Concrete (SCC) Containing Milled Limestone: How to Develop a Cost-Effective Mixture Design without Sacrificing Performance **9:00 AM**
David A. Berg, Market Manager, Carmeuse Lime & Stone, Pittsburgh, PA

SCC Value in Precast Applications **9:30 AM**
Ketan R. Sompura, Product Manager, Sika Corporation, Lyndhurst, NJ

The Value of SCC in Construction Projects from a Contractor's Perspective **10:00 AM**
Lloyd J. Keller, Research and Development Manager, EllisDon Corporation, Mississauga, ON, Canada

The Value of SCC—A Case Study Analysis **10:30 AM**
Joseph A. Daczko, Product Line Manager, BASF Construction Chemicals, Beachwood, OH

SCC Value Estimator—A New Tool for Establishing the Value of SCC for the Contractor **11:00 AM**
Sherry O. Sullivan, Technical Services Representative, Ready-Mixed Concrete Association of Ontario, Mississauga, ON, Canada

The Economic Benefits of SCC Projects **11:30 AM**
Brendan P. Clemente, Sales Manager, Bonded Concrete, Inc., Watervliet, NY

Tuesday, April 5, 2011
9:00 AM - 12:00 PM

New Developments in Chemical Admixtures: An ACI Committee 212 Update **M-MEETING ROOM 5**
Sponsored by ACI Committee 212, Chemical Admixtures

Session Co-Moderators: William S. Phelan
Senior Vice President of Marketing
The Euclid Chemical Co.
East Brunswick, NJ

Bradley K. Violetta
Industry Manager
BASF Construction Chemicals
Cleveland, OH

ACI Committee 212, Chemical Admixtures, recently completed an update of its report. The purpose of this session is to present the document revisions, including new, innovative developments in chemical admixtures, performance data, and project profiles regarding new technologies.

An Introduction to the New Report on Chemical Admixtures **9:00 AM**
William S. Phelan, Senior Vice President of Marketing, The Euclid Chemical Co., East Brunswick, NJ

Hydration Control: Cold Weather Admixture Systems, Admixtures for Very High Early-Strength Concrete and Extended Set Control Admixtures **9:10 AM**
Bradley K. Violetta, Industry Manager, BASF Construction Chemicals, Cleveland, OH

Innovative Admixture Technology for Self-Consolidating Concrete **9:40 AM**
Lawrence R. Roberts, Consultant, Roberts Consulting Group LLC, Acton, MA

State-of-the-Art Overview of the Performance and Applications of Shrinkage-Reducing Admixtures **10:10 AM**
Timothy Durning, Product Group Manager, WR Grace Construction Products, Cambridge, MA

Tuesday, April 5, 2011
9:00 AM - 12:00 PM

New Developments in Chemical Admixtures:
An ACI Committee 212 Update cont. **M-MEETING ROOM 5**

Corrosion-Inhibiting Admixtures **10:40 AM**
John B. Wojakowski, Professional Engineer, Hycrete Inc., Topeka, KS

Alkali-Silica-Reaction-Controlling Admixtures **11:00 AM**
David Stokes, Concrete Technology Manager, FMC Corporation, Bessemer City, NC

Permeability-Reducing Admixtures **11:20 AM**
Kari L. Yuers, President & CEO, Kryton International Inc., Vancouver, BC, Canada

Tuesday, April 5, 2011
9:00 AM - 12:00 PM

Performance-Based Requirements for Concrete and Sustainability, Part 2 **M-MEETING ROOM 1**
Sponsored by ACI Committees 130, Sustainability of Concrete, and 329, Performance Criteria for Ready Mixed Concrete

Session Moderator: Mark F. Chrzanowski
Principal Structural Technologist
Ch2M Hill
Gainesville, FL

Although sustainability is not the sole driver for developing performance-based specification of concrete, there is certainly a connection. This session will look into what performance-based specification of concrete is and how it can foster innovation and greater levels of concrete sustainability.

Participants will gain an understanding of what the industry is doing to develop a performance-based alternative for concreting. In addition, participants will gain an understanding of the interrelationship of performance-based concrete and sustainability. Participants will also gain an understanding of how performance-based concrete affects the various stakeholders in a construction project. Finally, participants will learn about what ACI is doing to develop and promote the performance criteria for ready mixed concrete.

Implementing Performance-Based Concrete **9:00 AM**
Mark F. Chrzanowski, Principal Structural Technologist, Ch2M Hill, Gainesville, FL

Performance-Based Concrete—Contractor's Perspective **9:15 AM**
Ross S. Martin, President, Ross Martin Consultants, Naples, FL

Performance-Based Concrete—Concrete Producer's Perspective **9:45 AM**
John W. Vaughan, Technical Service Director, Irving Materials Inc., Louisville, KY

Performance-Based Concrete—Engineer's Perspective **10:15 AM**
Frank S. Malits, Principal, Cagley and Associates, Silver Spring, MD

Tuesday, April 5, 2011
9:00 AM - 12:00 PM

Performance-Based Requirements for Concrete and Sustainability, Part 2 (cont.) **M-MEETING ROOM 1**

VDOT Experience with Performance-Based Specifications for Concrete **10:45 AM**
Michael M. Sprinkel, Associate Director, Virginia Transportation Research Council, Charlottesville, VA; and **H. Celik Ozyildirim**, Virginia Transportation Research Council

Performance-Based Concrete—Other Stakeholders **11:15 AM**
Mark F. Chrzanowski, Principal Structural Technologist, Ch2M Hill, Gainesville, FL

Sustainability and Performance-Based Concrete—What is Happening within ACI? **11:45 AM**
Mark F. Chrzanowski, Principal Structural Technologist, Ch2M Hill, Gainesville, FL

Tuesday, April 5, 2011
9:00 AM - 12:00 PM

Shells—They're Not Just for Turtles **M-SALON 5**
Sponsored by Joint ACI-ASCE Committee 334, Concrete Shell Design and Construction

Session Co-Moderators: Charles S. Hanskat
Principal Engineer
Concrete Engineering Group, LLC
Northbrook, IL

Chris S. Zweifel
President
ZZ Consulting
Shelley, ID

This session will provide a comprehensive look at the viability of concrete shell structures in today's marketplace. Presenters will explore the history, applications, aesthetics, design, and sustainability of shell structures.

A History of Shell Structures **9:00 AM**
Theodore J. Smulski, Project Engineer, DEDC Consulting Engineers, Newark, DE

Industrial Uses of Concrete Domes **9:50 AM**
Michael D. Hunter, Managing Member, DOMTEC International LLC, Idaho Falls, ID

Architecture of Shell Structures **10:20 AM**
Leeland A. Gray, Professor, Leeland A Gray Architects LLC, Salt Lake City, UT

Design of Shell Structures **11:00 AM**
Chris S. Zweifel, President, ZZ Consulting, Shelley, ID

Sustainability of Shells **11:30 AM**
Charles S. Hanskat, Principal Engineer, Concrete Engineering Group, LLC, Northbrook, IL

Tuesday, April 5, 2011
9:00 AM - 12:00 PM

Silica Fume Concrete in Practice—
Recent Case Histories **M-MEETING ROOM 4**
Sponsored by ACI Committee 234, Silica Fume in Concrete

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

Fouad H. Yazbeck
Technical Manager
Readymix Abu Dhabi
Abu Dhabi, United Arab Emirates

More than 20 million m^3 of silica fume concrete, typically used for high-performance and/or high strength concrete, is placed annually. This contributes to increased sustainability and service-life economy. The session will give information on some special structures that have been built during the last few years. By attending this session, you will gain a better understanding of the environmental, technical, and economical possibilities by using silica fume concrete.

I-10 Twin Bridges in New Orleans, LA **9:00 AM**
Anthony N. Kojundic, Marketing Manager, Elkem Materials, Inc., Pittsburgh, PA

The Application of Silica Fume Concrete in the Qatalum Project, One of the Largest Aluminum Plants Ever Built **9:30 AM**
James M. Aldred, Principal Engineer, GHD Global, Sydney, Australia

Use of Silica Fume Concrete in Elevated Roads and Decks at Toronto's Pearson Airport **9:55 AM**
R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada; **John A. Bickley**, John A. Bickley Associates Ltd; and **Dennis Baker**, Holcim Canada, Inc.

Properties of Grade 100 MPa High-Performance Concrete **10:25 AM**
Herbert Wei Zheng, Technical Manager, Gammon Construction Ltd, Hong Kong, China; and **Albert H. K. Kwan**, University of Hong Kong

Tuesday, April 5, 2011
9:00 AM - 12:00 PM

**Silica Fume Concrete in Practice—
Recent Case Histories (cont.)** **M-MEETING ROOM 4**

Submerged Concrete Tunnel in Oslo, Norway **10:55 AM**
Sverre Smeplass, Professor, Norwegian University,
Trondheim, Norway

**Use of Silica Fume in Residential Structures in Marine
Environment in the Gulf** **11:25 AM**
Fouad H. Yazbeck, Technical Manager, Readymix
Abu Dhabi, Abu Dhabi, United Arab Emirates

Tuesday, April 5, 2011
12:00 PM - 2:00 PM

✓**Contractors' Day Lunch** **M-SALON 6**
$40 U.S. per person
Hosted by the ACI Florida Suncoast Chapter and the Construction Liaison Committee

Speaker: Lawrence C. Novak
Manager, Building Structures
Portland Cement Association
Skokie, IL

Join other ACI attendees and contractors for the Contractors' Day Lunch. Enjoy a special presentation on "Engineering the World's Tallest Structure" from featured speaker Larry Novak of the Portland Cement Association.

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, April 5, 2011
2:00 PM - 5:00 PM

Accelerated Bridge Design and Construction **M-MEETING ROOM 4**
Sponsored by ACI Committee 345, Concrete Bridge Construction, Maintenance, and Repair; and Joint ACI-ASCE Committee 343, Concrete Bridge Design

Session Co-Moderators: Andrew J. Foden
Supervising Engineer
Parsons Brinckerhoff
Princeton, NJ

Michael C. Brown
Research Scientist
Virginia Transportation Research Council
Charlottesville, VA

The objective of this session is to provide information to practitioners on ways to accelerate bridge projects from design through construction. The presentations will discuss considerations, construction methods, and practices, or case studies that highlight advancements in or issues related to rapid bridge construction. This session will help the industry work with FHWA's "Every Day Counts" initiative, which is striving to increase the ability to deliver timely transportation projects to the public.

A Case Study of the Accelerated Bridge Construction in Downtown Seattle for the Alaskan Way Viaduct Replacement Program **2:00 PM**
Joan Zhong-Brisbois, Senior Designer, Parsons Brinckerhoff, Seattle, WA

Totally Prefabricated Bridges: Design and Construction **2:25 PM**
Mohsen A. Issa, Professor, University of Illinois, Chicago, IL

Construction of Viaducts for the High-Speed Railway Lines in Spain **2:55 PM**
Juan Sobrino, President, PEDELTA Inc., Pittsburgh, PA

Longitudinal and Transverse Joint Details for Accelerated Bridge Construction **3:20 PM**
Z. John Ma, Associate Professor, University of Tennessee, Knoxville, TN

Using Bridge Information Modeling (BrIM) to Expedite Bridge Design, Construction, and Maintenance **3:45 PM**
Shrinivas B. Bhide, Director of Engineering, Bentley Systems, Inc., Sunrise, FL

Tuesday, April 5, 2011
2:00 PM - 5:00 PM

Accelerated Bridge Design and Construction (cont.) **M-MEETING ROOM 4**

Detailing Full-Width Full-Depth Precast Bridge Deck Panels **4:05 PM**
Carin L. Roberts-Wollmann, Professor, Virginia Polytechnic University, Blacksburg, VA

Tuesday, April 5, 2011
2:00 PM - 5:00 PM

Contractors' Day Session: Concrete—The Strength of Florida **M-MEETING ROOM 5**
Sponsored by the ACI Florida Suncoast Chapter

Session Co-Moderators: Said Iravani
President
Iravani P.A.
Tampa, FL

Donald W. Farris
Vice President
Batson-Cook Company
Tampa, FL

Concrete Technology Advances and Applications in Florida during the Past Two Decades **2:00 PM**
Eckart R. Bühler, Manager of Engineering Services, Norchem, Inc., Jupiter, FL

Trench Remixing Deep (TRD) **2:30 PM**
Ed Garbin, Chief Engineer, Hayward Baker, Inc., Tampa, FL

Dr. Phillips Center for the Performing Arts, Orlando **3:00 PM**
Michael C. Head, Senior Structural Engineer, TLC Engineering for Architecture, Orlando, FL

440 West Condominiums, "The Concrete Ship" **3:30 PM**
David G. Karins, Principal, Karins Engineering Group, Inc., Sarasota, FL

Managing our Emotions, Anger, and Stress: Exercising the Freedom to Choose Our Responses during Conflict **4:00 PM**
Bahaudin G. Mujtaba, Associate Professor, Nova Southeastern University, Fort Lauderdale, FL

Duke Energy Center Mixed Use Complex, Charlotte, North Carolina **4:30 PM**
Thomas A. Hagood, Principal and Division Manager, TRC Worldwide Engineering, Inc., Sarasota, FL; and **Linwood Schultz**, TRC Worldwide Engineering, Inc.

Tuesday, April 5, 2011
2:00 PM - 5:00 PM

Open Paper Session **M-MEETING ROOM 1**
Sponsored by ACI Committee 123, Research and Current Developments

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

Jinying Zhu
Assistant Professor
University of Texas
Austin, TX

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

High Pozzolan Mix Designs for Mass Concrete Placements **2:00 PM**
Benn B. Stutrud, Concrete Engineer, American Engineering Testing, Inc., St. Paul, MN

Experimental Modeling of FRP Confined Concrete Using "Ice Methodology" **2:20 PM**
Francisco J. De Caso y Basalo, Graduate Student, University of Miami, Miami, FL; and **Antonio Nanni**, University of Miami

Early-Age Properties of Cementitious Pastes Determined from Combined Shear and Longitudinal Ultrasonic Wave Reflection **2:40 PM**
Prannoy Suraneni, Graduate Research Assistant, University of Illinois at Urbana-Champaign, Urbana, IL; **Chul-Woo Chung**, Pacific Northwest National; and **Leslie J. Struble** and **John S. Popovics**, University of Illinois at Urbana-Champaign

(Part 1) Shear Design of Reinforced Concrete Beams **3:00 PM**
Wu-Wei Kuo, Postdoctoral Research Fellow, Department of Civil Engineering, National Taiwan University, Taipei, Taiwan; **Thomas T. C. Hsu**, University of Houston; and **S. J. Hwang**, National Taiwan University

Tuesday, April 5, 2011
2:00 PM - 5:00 PM

Open Paper Session (cont.) **M-MEETING ROOM 1**

(Part 2) Shear Strength of Prestressed Steel Fiber Concrete Beams
Padmanabha Rao Tadepalli, Graduate Student, University of Houston, Houston, TX; and **H. B. Dhonde**, **Y. L. Mo**, and **Thomas T. C. Hsu**, University of Houston

Improving Concrete Quality **3:20 PM**
Karthik H. Obla, Vice President, Technical Services, National Ready Mixed Concrete Association, Silver Spring, MD

Study of SEC Concrete Aimed at Applying to Construction of LNG Outer Concrete Storage Tank **3:40 PM**
Seiichi Ishigami, Staff, IHI Corporation, Tokyo, Japan; and **Takashi Kanekura** and **Tetsuya Hamada,** IHI Corporation

Microstructural Properties of Recycled Concrete Aggregates **4:00 PM**
Yogini Deshpande, Assistant Professor, University of South Alabama, Mobile, AL; and **Jacob E. Hiller**, Michigan Technological University

Diaphragm Behavior of Fiber-Reinforced Composite Metal Decks **4:20 PM**
Salah al Toubat, Assistant Professor, University of Sharjah, United Arab Emirates; and **Hussein Ousman,** University of Sharjah

Effects of Slag on Early-Age Properties of Fly Ash-Slag Geopolymer **4:40 PM**
S**ravanthi Puligilla,** Graduate Student, University of Illinois at Urbana-Champaign, Urbana, IL; and **Paramita Mondal**, University of Illinois at Urbana-Champaign

Tuesday, April 5, 2011
2:00 PM - 5:00 PM

Performance-Based Specifications and Testing, Part 2 **M-SALON 4**
Sponsored by ACI Committees 201, Durability of Concrete, and 236, Material Science of Concrete

Session Co-Moderators: Narayanan Neithalath
Professor
Arizona State University
Tempe, AZ

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

The performance of concrete is currently on the basis of prescriptive specification of minimum grade, minimum binder content, and maximum water-binder ratio for a series of well-defined environmental classes. Although numerous attempts have been made to introduce performance-based specifications, this has been hampered by the lack of reliable, consistent, and standardized test procedures for evaluating concrete performance. It is widely recognized that an appropriate testing technology has not been sufficiently developed to satisfy a performance-based philosophy. In this respect, there is a widespread recognition that central to the concept of performance-based specifications is the requirement for reliable and repeatable test methods that can evaluate the required performance characteristics along with performance compliance limits, which should take into account the inherent variability of the test method. It is evident that test procedures are required such that those properties of concrete that ensure long-term durability can be determined very early on in the life of a structure and that the concrete will meet specified requirements.

The principal aim of this session is to review the performance-based specification of concrete and to identify where progress can be made faster to take this concept to standardization. Therefore, the specific objectives of the session are as follows: to present on performance-based specifications and testing from different parts of the world; to identify potential approaches that have been successfully used to apply the performance-based specification methodology in the industry; and to identify research and technology transfer needs that can form the basis of the activities of the two technical committees involved.

Tuesday, April 5, 2011
2:00 PM - 5:00 PM

Performance-Based Specifications and Testing, Part 2 (cont.) **M-SALON 4**

Performance-Based Tests and Criteria for Concrete Durability—Preliminary Results **2:00 PM**
Karthik H. Obla, Vice President, Technical Services, National Ready Mixed Concrete Association, Silver Spring, MD

The Influence of Alkali-Hydroxides on Volume Changes in Cementitious Materials **2:25 PM**
Gaurav N. Sant, Assistant Professor, University of California, Los Angeles, CA; **Karen Scrivener**, **Aditya Kumar, Varun Sharma**, and **Cedric Patapy**, École Polytechnique Fédérale de Lausanne

Performance Monitoring of Concrete Using Electrical Property Measurements **2:50 PM**
William J. McCarter, Professor, Heriot-Watt University, Edinburgh, Scotland, UK; **Gerry Starrs**, **M. Chrisp**, and **A. Adamson**, Heriot-Watt University; and **P. A. Muhammed Basheer**, **Sreejith Nanukuttan**, **N. Holmes**, **Sudarsan Srinivasan**, and **Lulu Basheer**, Queen's University Belfast

Comparison of Surface Resistivity to Bulk Diffusion Testing of Concrete **3:15 PM**
Christopher C. Ferraro, Structural Materials Research Engineer, Florida Department of Transportation, Gainesville, FL; and **Mario A. Paredes**, Florida Department of Transportation

Air Content Testing of Pumped Concrete **3:40 PM**
Donald J. Janssen, Associate Professor, University of Washington, Seattle, WA

Development of Hybrid Control Charts for Active Control and Monitoring of Concrete Strength **4:05 PM**
Barzin Mobasher, Professor, Arizona State University, Tempe, AZ; **David Montgomery**, Montgomery Engineering & Management LLC; **B. Laungrungrong** and **C. M. Borror**, Arizona State University

Assessing Performance of UHPC Incorporating Nanosilica **4:30 PM**
Mahmoud M. Reda Taha, Assistant Professor, University of New Mexico, Albuquerque, NM; and **Jung Joong Kim** and **A. Griffen**, University of New Mexico

Tuesday, April 5, 2011
2:00 PM - 5:00 PM

Reaching Out to the Next Generation **M-SALON 5**
Sponsored by ACI Committee S802, Teaching Methods and Educational Materials

Session Co-Moderators: Devin K. Harris
Assistant Professor
Michigan Technological University
Houghton, MI

Chris Carroll
Assistant Professor
University of Louisiana
Lafayette, LA

This session highlights innovative methods for exposing K-12 students to the world of engineering, with a specific focus on concrete. It includes presentations on a variety of demonstrations to youth over the entire K-12 spectrum and is aimed at inspiring the next generation to pursue careers in science, technology, engineering, and math. These demonstrations will focus on concrete but may also highlight other structural engineering aspects, such as bridges, buildings, mechanics, and material behavior.

Kits for Kids: Concrete and Paper Bridges **2:00 PM**
Luke M. 3, Senior Materials Engineer, Western Technologies, Inc., Tempe, AZ; and **Billie G. Snell**, Educational Consultant

Concrete Creations **2:25 PM**
Maria G. Juenger, Associate Professor, University of Texas, Austin, TX; and **Katherine Gustashaw,** University of Texas

Concrete for Kids **2:50 PM**
Carin L. Roberts-Wollmann, Associate Professor, Virginia Polytechnic University, Blacksburg, VA

From High School to Higher Ed: Collaborative Approach to Learning about Concrete **3:15 PM**
Raissa P. Douglas Ferron, Assistant Professor, University of Texas, Austin, TX

Tuesday, April 5, 2011
2:00 PM - 5:00 PM

Reaching Out to the Next Generation (cont.) **M-SALON 5**

FHWA National Transportation Institute Program at Michigan Tech **3:40 PM**
Chris G. Gilbertson, Graduate Research Assistant, Michigan Technological University, Houghton, MI

ACI K-12 Engagement **4:05 PM**
Lawrence L. Sutter, Professor, Michigan Technological University, Houghton, MI

University of Louisiana at Lafayette GEAR UP Engineering Program **4:30 PM**
Chris Carroll, Assistant Professor, University of Louisiana, Lafayette, LA

Tuesday, April 5, 2011
5:00 PM - 6:00 PM

Faculty Network Reception **W-TERRACE**

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, April 5, 2011
6:00 PM - 9:00 PM

Concrete Mixer—The Florida Aquarium THE FLORIDA AQUARIUM
Sponsored by the ACI Florida Suncoast Chapter

Tonight you will have the opportunity to see over 20,000 of the plants and animals from Florida and around the world up close. Don't miss the animal encounters!—6:45 PM, Alligator in Explore a Shore and Coral Reef Room; 7:30 PM, Birds of Prey in the Main Lobby and on the 2nd floor; and 8:15 PM, Alligator in the Main Lobby and Coral Reef Room. The 200,000 ft^2 (18,580 m^2) Florida Aquarium is an exceptional backdrop in which to network and enjoy delicious food and cocktails with friends and fellow concrete professionals during the Concrete Mixer.

Guests will also be able to explore the Victory Ship beginning at 5:30 PM. If you are unable to climb stairs or maneuver in tight spaces, you will not be able to explore the ship.

The Florida Aquarium is just six short blocks from the Marriott Tampa Waterside Hotel & Marina and Westin; ACI attendees can take the historic streetcar, trolley, or walk along the riverwalk to the Concrete Mixer. If you are taking the streetcar, please use the Greco Plaza boarding station located across the street from the Marriott Tampa Waterside Hotel & Marina. The streetcars will run for the duration of the event. If you plan on walking to the aquarium, gold star balloons on the Riverwalk and members of the Florida Suncoast Chapter will guide you along the route.

Wednesday, April 6, 2011
8:00 AM - 2:00 PM

✓ **ACI/TCA Tilt-Up Supervisor Certification Seminar and Exam** **M-MEETING ROOM 8**
7:30 AM Registration

Speaker: Genaro L. Salinas
President
Salinas Consultants
El Paso, TX

The Tilt-Up Concrete Association (TCA) and ACI proudly announce the first-ever ACI/TCA Tilt-Up Supervisor Certification Seminar and Exam. In addition, TCA is proud to announce the availability of the first official Spanish Study Guide. This Spanish-only seminar is a great introduction and refresher course to many tilt-up construction concepts. No English seminar will be held. The certification exam will follow the conclusion of the seminar. Both English and Spanish versions of the exam will be available. **Registration is closed for this event**.

Wednesday, April 6, 2011
9:00 AM - 12:00 PM

ACI and the Concrete Industry's Approach to Green Building **M-MEETING ROOM 4**
Sponsored by ACI Committee 130, Sustainability of Concrete

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

This session will provide an update on the world of ACI and the concrete industry to address the issues of green building and sustainability. Attendees will learn about specific applications where new developments in concrete technology and science can deliver green building strategies to designers and stakeholders. Concrete hot topics will be discussed and best practices for engaging the green building industry will be shared.

NRMCA Sustainability Initiatives: A Progress Report **9:00 AM**
Lionel A. Lemay, Senior Vice President, National Ready Mixed Concrete Association, Libertyville, IL

Sustainable Two-Lift Pavements with Photocatalytic Cement and Pervious Concrete Shoulders **9:25 AM**
John T. Kevern, Assistant Professor, University of Missouri, Kansas City, MO

Fiber-Reinforced Aerated Concrete: A Novel Green Material **9:50 AM**
Barzin Mobasher, Professor, Arizona State University, Tempe, AZ; and **Aboozar Bonakd**, Arizona State University

Using Limestone Fillers to Reduce CO_2 Emission and Improve Durability of Concrete **10:15 AM**
Aleksandra Radlinska, Assistant Professor, Villanova University, Villanova, PA

Thermal Inertia, a Key Component in the Design of Green Buildings **10:40 AM**
Stephen S. Szoke, Director of Codes and Standards, Portland Cement Association, Skokie, IL

Building Sustainable Concrete Homes **11:05 AM**
Joseph V. Nasvik, Senior Editor of *Concrete Construction* magazine, Hanley-Wood LLC, Chicago, IL

Precast Concrete Industry's Green Initiatives **11:30 AM**
Emily B. Lorenz, Engineer, CTLGroup, Skokie, IL

Wednesday, April 6, 2011
9:00 AM - 12:00 PM

Advances in Fiber-Reinforced Concrete Durability and Field Applications, Part 1 **M-MEETING ROOM 5**
Sponsored by ACI Committee 544, Fiber-Reinforced Concrete

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

Mahmut Ekenel
Staff Engineer
ICC Evaluation Service, Inc.
Whittier, CA

Fiber reinforcement is the most effective way of improving the resistance of concrete to cracking, but little is known of the benefits of fiber reinforcement on long-term durability. The purpose of this session is to bring together experts from around the world to discuss the role of fiber reinforcement in enhancing durability, to learn from real-life situations, and to lay the foundation for life-cycle engineering analysis with fiber-reinforced concrete. The session will provide insight on the state-of-the-art topic in academia, the industry, and real-life applications. Contractors, material suppliers, engineers, researchers, and scientists will benefit from this session.

Application of Ultrasonic Pulse Velocity in Predicting the Permeability of Concrete in Service **9:00 AM**
Meghdad Hoseini, Graduate Research Assistant, University of Alberta, Edmonton, AB, Canada; and **Vivek S. Bindiganavile**, University of Alberta

Elaboration of Design Criteria at Serviceability for Fiber-Reinforced Concrete Structures **9:25 AM**
Jean-Philippe Charron, Associate Professor, Polytechnic School of Montreal, Montreal, QC, Canada; and **Clélia Desmettre**, Polytechnic School of Montreal

Simulated Shrinkage Cracking in the Presence of Alkali-Resistant Glass Fibers **9:50 AM**
Barzin Mobasher, Professor, Arizona State University, Tempe, AZ; and **Mehdi Bakhshi**, Arizona State University

Wednesday, April 6, 2011
9:00 AM - 12:00 PM

Advances in Fiber-Reinforced Concrete Durability and Field Applications, Part 1 (cont.) **M-MEETING ROOM 5**

Influence of Macro-Synthetic Fiber-Reinforcement on the Chloride Penetration Resistance of Normal and Self-Consolidating Concrete **10:15 AM**
Dean P. Forgeron, Assistant Professor, Dalhousie University, Halifax, NS, Canada; and **Alkilani Omar**, Dalhousie University

Durability and Crack Control in RC Elements with Fiber Reinforcement **10:40 AM**
Giovanni A. Plizzari, Professor, University of Brescia, Brescia, Italy; and **Fausto Minelli** and **Giuseppe Tiberti**, University of Brescia

Implementation of High-Performance Fiber-Reinforced Concrete Coupling Beams in High-Rise Core-Wall Structures in the Seattle Area **11:05 AM**
Gustavo J. Parra-Montesinos, Associate Professor, University of Michigan, Ann Arbor, MI; **Monthian Setkit**, **Remy D. Lequesne**, and **James K. Wight**, University of Michigan; and **Cary Kopczynski**, **Joe Ferzli**, and **Min-Yuan Cheng**, Cary Kopczynski and Company

Wednesday, April 6, 2011
9:00 AM - 12:00 PM

Performance-Based Specifications and Testing, Part 3 **M-SALON 4**
Sponsored by ACI Committees 201, Durability of Concrete, and 236, Material Science of Concrete

Session Co-Moderators: Karthik Obla
Vice President, Technical Services
National Ready Mixed Concrete Association
Silver Spring, MD

Christopher Ferraro
Structural Materials Research Engineer
Florida Department of Transportation
Gainesville, FL

The performance of concrete is currently on the basis of prescriptive specification of minimum grade, minimum binder content, and maximum water binder ratio for a series of well-defined environmental classes. Although numerous attempts have been made to introduce performance-based specifications, this has been hampered by the lack of reliable, consistent, and standardized test procedures for evaluating concrete performance. It is widely recognized that an appropriate testing technology has not been sufficiently developed to satisfy a performance based philosophy. In this respect, there is a widespread recognition that central to the concept of performance based specifications is the requirement for reliable and repeatable test methods that can evaluate the required performance characteristics along with performance compliance limits, which should take into account the inherent variability of the test method. It is evident that test procedures are required such that those properties of concrete that ensure long-term durability can be determined very early on in the life of a structure and that the concrete will meet specified requirements.

The principal aim of this session is to review the performance-based specification of concrete and to identify where progress can be made faster to take this concept to standardization. Therefore, the specific objectives of the session are as follows: to present on performance-based specifications and testing from different parts of the world; to identify potential approaches that have been successfully used to apply the performance-based specification methodology in the industry; and to identify research and technology transfer needs that can form the basis of the activities of the two technical committees involved.

Wednesday, April 6, 2011
9:00 AM - 12:00 PM

Performance-Based Specifications and Testing, Part 3 (cont.) **M-SALON 4**

The Port Authority of NY and NJ Performance Specification for Durable Concrete **9:00 AM**
Casimir Bognacki, Chief of Materials, Port Authority of New York and New Jersey, Jersey City, NJ

A Review of the Use of Durable Performance-Based Concretes Not Conforming to ACI 318 **9:25 AM**
Kevin A. MacDonald, Vice President of Engineering Services, Cemstone Concrete Products Company, Mendota Heights, MN

Performance-Based DOT Specifications and Testing to Determine Acceptability: Case Studies **9:50 AM**
David A. Rothstein, President, DRP Consulting, Inc., Boulder, CO; and **Ramón L. Carrasquillo**, Carrasquillo Associates, LTD

Development of an Alternative Performance Specification to Limit Damaging ASR in Military Airfield Pavement **10:15 AM**
Toy Poole, Senior Principal Scientist, CTLGroup, Skokie, IL

Utah Performance Specification Approach for Durable Concrete **10:40 AM**
Paul J. Tikalsky, Professor, University of Utah, Salt Lake City, UT; and **Shannon Hanson**, University of Utah

Performance Specifications for 100 Years Service Life of Concrete and Reinforcing Steel Systems **11:05 AM**
Larry D. Church, Senior Project Manager, Tourney Consulting Group, LLC, Kalamazoo, MI

The Canadian Performance Specification: Current Status and Future Trends Related to Durability **11:30 AM**
R. Doug Hooton, Professor, University of Toronto, Toronto, ON, Canada

Wednesday, April 6, 2011
9:00 AM - 12:00 PM

Performance of RC Columns under Extreme Loading, Part 1 **M-MEETING ROOM 1**
Sponsored by Joint ACI-ASCE Committee 441, Reinforced Concrete Columns

Session Co-Moderators: Aly Said
Assistant Professor
University of Nevada
Las Vegas, NV

Wassim M. Ghannom
Assistant Professor
University of Texas
Austin, TX

This session will address the most recent research on concrete columns under various types of loading. Also, many innovative topics, such as the performance of segmental, precast, post-tensioned column systems, will be presented. Furthermore, the session will discuss recent research conducted through the NSF-NEES program and work from Canada on blast-loading and shape memory alloys, as well as work from India. This session will provide a wide range of information for engineers practicing in both the private and public sectors.

Seismic Performance of Self-Centering Precast Post-Tensioned Columns **9:00 AM**
Mohamed Elgawady, Assistant Professor, Washington State University, Pullman, WA; and **Haitham M. Dawood**, Washington State University

Design and Detailing Considerations for Reinforced Concrete Columns Subjected to Extreme Loads **9:25 AM**
Eric B. Williamson, Associate Professor, University of Texas, Austin, TX; and **Oguzhan Bayrak**, University of Texas

Axial Failure of Reinforced Concrete Columns Damaged by Shear Reversals **9:50 AM**
Kurt W. Henkhaus, Graduate Research Assistant, Purdue University, West Lafayette, IN; and **Santiago Pujol** and **Julio Ramirez**, Purdue University

Wednesday, April 6, 2011
9:00 AM - 12:00 PM

Performance of RC Columns under Extreme Loading, Part 1 (cont.) **M-MEETING ROOM 1**

Seismic Resistance of Concrete Columns with FRP Lateral Reinforcement **10:15 AM**
Shamim A. Sheikh, Professor, University of Toronto, Toronto, ON, Canada; and **Jingtao Liu**, University of Toronto

The Significance of Combined Creep and Damage on Reliability of Reinforced Masonry Columns **10:40 AM**
Jung J. Kim, Post-Doctoral Fellow, University of New Mexico, Albuquerque, NM; **N.G. Shrive**, University of Calgary; and **Tia Fan** and **Mahmoud M. Reda Taha**, University of New Mexico

Seismic Evaluation of SMA-FRP RC Hybrid Column **11:05 AM**
M. Shahria Alam, Assistant Professor, University of British Columbia, Okanagan, Kelowna, BC, Canada; and **A. H. M. Muntasir Billah**, University of British Columbia

A Rational Method for Analysis of Reinforced Concrete Columns to Resist Low-Velocity Head-On Vehicle Collision **11:30 AM**
Anand Mehta, Structural Engineer, Road and Bridge Department, Gujarat, India; **Nandish R. Pethani**, Structural Consultants; and **Himat T. Solanki**, Sarasota County Government

Wednesday, April 6, 2011
2:00 PM - 5:00 PM

Advances in Fiber-Reinforced Concrete Durability and Field Applications, Part 2 **M-MEETING ROOM 5**
Sponsored by ACI Committee 544, Fiber-Reinforced Concrete

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

Clifford N. MacDonald
Director of Engineering
FORTA Corporation
Inver Grove Heights, MN

Fiber reinforcement is the most effective way of improving the resistance of concrete to cracking, but little is known of the benefits of fiber reinforcement to long-term durability. This session will bring together experts from around the world to discuss the role of fiber reinforcement in enhancing durability, to learn from real-life situations, and to lay the foundation for life-cycle engineering analysis with fiber-reinforced concrete. The session will provide insight on the state-of-the-art topic in academia, the industry, and real-life applications. Contractors, material suppliers, engineers, researchers, and scientists will benefit from this session.

Increased Durability by Reduced Cracking with Synthetic Fiber-Reinforced Concrete Slab on Ground Projects **2:00 PM**
Clifford N. MacDonald, Director of Engineering, FORTA Corporation, Inver Grove Heights, MN; and **Daniel T. Biddle** and **Martin J. Doody**, FORTA Corporation

Temperature Effects on the Long-Term Behavior of Macro-Synthetic and Steel-Fiber Reinforced Concretes **2:25 PM**
Antonio Gallovich, Fiber-Reinforced Concrete and Tunneling Unit Manager of North America, Maccaferri, Inc., Williamsport, MD; and **Nicola Buratti**, **Claudio Mazzotti**, and **Marco Savoia**, University of Bologna

A Review of the Durability of GFRC Properties and Applications **2:50 PM**
John Jones, Technical Sales Manager, Nippon Electric Glass America, Inc., Hendersonville, TN

Wednesday, April 6, 2011
2:00 PM - 5:00 PM

Advances in Fiber-Reinforced Concrete Durability and Field Applications, Part 2 (cont.) **M-MEETING ROOM 5**

Durability and Strength of UHPFRC Used in the Beams of a Bridge in Virginia **3:15 PM**
H. Celik Ozyildirim, Principal Research Scientist, Virginia Transportation Research Council, Charlottesville, VA

Fiber-Reinforced Concrete in Extreme Tunnel Conditions **3:50 PM**
Richard S. Kinchen, North American Concrete Specialist, Halcrow Group, Arlington, VA; and **Donald E. Wimpenny** and **Andrew G. Ardrey**, Halcrow Group

25.000 cu.m of SFRC in the Suspended Foundation Slabs of the Swedbank Arena in Stockholm **4:05 PM**
Xavier Destree, Consultant, ArcelorMittal, La Hulpe, Belgium; **Hans Oscarsson**, Swerock AB; and **Mats Pettersson**, ArcelorMittal Wire Solutions

Wednesday, April 6, 2011
2:00 PM - 5:00 PM

History of Concrete **M-SALON 4**
Sponsored by ACI Committee 120, History of Concrete

Session Co-Moderators: Laurel M. Dovich
Private Consultant
Spokane, WA

Michael E. Murray
President
Murray Decorative Concrete Supply
Shawnee, KS

This session will further educate owners, concrete professionals, engineers, architects, and designers about the benefits and sustainability of concrete as a building material for past, present, and future generations.

John J. Earley, Earley Studio and Polychrome Concrete Mosaics **2:00 PM**
Robert F. Armbruster, President, The Armbruster Company, Inc., Northbrook, IL

The Garden of Eden **2:17 PM**
Michael E. Murray, President, Murray Decorative Concrete Supply, Shawnee, KS ; **Luke M. Snell**, Western Technologies, Inc.; and **Billie G. Snell**, Educational Consultant

Rocky Home Construction in the Ozarks: A Look at Quigley's Castle **2:34 PM**
Lawrence H. Taber, Structural Engineer, Black & Veatch, Kansas City, MO

Concrete Battleships and Disappearing Cannons—American Coast Artillery in the 20th Century **2:51 PM**
Andrew Budek-Schmeisser, Assistant Professor, New Mexico Institute of Mining & Technology, Socorro, NM; and **Barbara Budek-Schmeisser**, Consultant

Rosalia Train Trestle: The Permanence of Concrete on an Abandoned Railway **3:08 PM**
Laurel M. Dovich, Private Consultant, Spokane, WA

Wednesday, April 6, 2011
2:00 PM - 5:00 PM

History of Concrete (cont.) **M-SALON 4**

The Mansion House—Description of the Official Residence of the Lord Mayor of London Built in the Mid-1700s **3:25 PM**
Patrick Sullivan, Senior Partner, Sullivan & Associates, Forensic and Testing Civil Engineers, London, UK

Two-Lift Concrete Paving: A Look Back **3:42 PM**
Kurt D. Smith, Program Director, Applied Pavement Technology, Inc., Urbana, IL

A Place in History: Belknap Place, San Antonio, TX **4:00 PM**
William Ciggelakis, Chief Engineer, Professional Service Industries, Dallas, TX; **Sean Van Delist**, Cement Council of Texas; and **Donald H. Taubert**, Retired

Magnetite Concrete in the Nuclear Industry **4:17 PM**
Ibrahim Erdem, Associate, Exponent, Inc., New York, NY; and **Anthony M. Dolhon**, Exponent, Inc.

Wednesday, April 6, 2011
2:00 PM - 5:00 PM

Performance of RC Columns under Extreme Loading, Part 2 **M-MEETING ROOM 1**

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

Session Co-Moderators: Aly Said
Assistant Professor
University of Nevada
Las Vegas, NV

Wassim M. Ghannom
Assistant Professor
University of Texas
Austin, TX

This session addresses the most recent research on concrete columns under various types of loading. Also, many innovative topics, such as the performance of segmental, precast, post-tensioned column systems, will be presented. Furthermore, the session will discuss very recent research conducted through the NSF-NEES program and work from Canada on blast-loading and shape memory alloys, as well as work from India. This session will provide a wide range of information for engineers practicing in both the private and public sectors.

Extreme Event-Confined Analysis of Rectangular Concrete Columns **2:00 PM**

Ahmed M. Abd El Fattah, Graduate Student, Kansas State University, Manhattan, KS; and **Hayder A. Rasheed**, Kansas State University

Effects of Confinement on Reinforced Concrete Columns under Explosive Loading **2:25 PM**

Alan Lloyd, Graduate Student, University of Ottawa, Ottawa, ON, Canada; **Murat Saatcioglu**, University of Ottawa; and **Timo Tikka,** Lakehead University

High-Strength Concrete Columns under Elevated Temperatures **2:50 PM**

Lawrence C. Novak, Director of Engineered Structures, Portland Cement Association, Skokie, IL; and **Mahmoud E. Kamara**, Portland Cement Association

Wednesday, April 6, 2011
2:00 PM - 5:00 PM

Performance of RC Columns under Extreme Loading, Part 2 (cont.) **M-MEETING ROOM 1**

Predicting Flexural Response Leading to Global Collapse of RC Frame Buildings: Discussion of Experimental Data Needs for Component Model Development and Calibration **3:15 PM**
Curt B. Haselton, Associate Professor, California State University, Chico, CA; and **Abbie B. Liel**, University of Colorado

Biaxial Strength of Beam-Columns **3:40 PM**
Jorge H. Chavez, Professor, University of Nuevo León, Mexico; and **Domingo J. Carreira**, Illinois Institute of Technology

NEES Research Project: Full-Scale RC and HPFRC Frame Subassemblages Subjected to Collapse-Consistent Loading Protocols for Enhanced Collapse Simulation and Internal Damage Characterization **4:05 PM**
Shih-Ho Chao, Assistant Professor, University of Texas, Arlington, TX; California State University; **John Popovics**, University of Illinois at Urbana-Champaign; and **Arturo Schultz,** University of Minnesota

Elastic Properties of RCC under Axial Loading **4:30 PM**
Sumant K. Kulkarni, Research Scholar, Sinhgad College of Engineering, Vadgaon, India; and **Mukund R. Shiyekar**, Sinhgad College of Engineering

Thursday, April 7, 2011
8:00 AM - 5:00 PM

✓**Concrete Repair Basics Seminar** **M-MEETING ROOM 5**
7:30 AM Registration, coffee, and pastries available
$597 Nonmember registration fee
$457 ACI national member registration fee
$125 Full-time students (with proof of enrollment)

Speakers:

James E. McDonald
Consultant
McDonald Consulting
Clinton, MS

Myles A. Murray
Consultant
M A M LLC Consultants
Sedalia, CO

This 1-day seminar is for engineers, repair contractors, materials suppliers, maintenance personnel, and public works engineers. Attendees will learn the best methods and materials for economical and effective concrete repairs. The seminar will cover the causes and evaluation of problems in deteriorating concrete, repair techniques, repair materials for cracks and joints, protection systems, overlays, and specifications for structures. Complimentary publications include ACI 201.1R, ACI 224.1R, ACI 364.1R, ACI 437R, ACI 546R, and seminar lecture notes.

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Notes

Notes

Session Attendance Tracking Form for the ACI Spring 2011 Convention

Tampa, FL • April 3-7, 2011

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. 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*.

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 1 contact hour (nominal) of instruction or presentation, rounded down to the nearest half hour.

SATURDAY, APRIL 2, 2011

9:00 AM - 12:00 PM — **3 PDH**

- ❑ FRPRCS-10: FRP Strengthening of Reinforced Concrete Columns (440)
- ❑ FRPRCS-10: Internal FRP Reinforced Concrete Structures (440)

2:00 PM - 5:00 PM — **3 PDH**

- ❑ FRPRCS-10: Bond of FRP to Concrete Systems (440)
- ❑ FRPRCS-10: Characterization of FRP Materials and Systems (440)

SUNDAY, APRIL 3, 2011

9:00 AM - 12:00 PM — **3 PDH**

- ❑ FRPRCS-10: Emerging FRP-Concrete Systems (440)
- ❑ FRPRCS-10: FRP Shear Strengthening of RC Beams (440)

2:00 PM - 5:00 PM — **3 PDH**

- ❑ FRPRCS-10: Fatigue Performance and Anchorage of FRP Systems (440)
- ❑ FRPRCS-10: Strengthening of Masonry Structures (440)
- ❑ Getting to the Core of Core Testing (214)
- ❑ Practical Design of Concrete Buildings (314)
- ❑ Precast Concrete Subjected to Blast and Impact Loads (370)

7:30 PM - 10:00 PM — **2.5 PDH**

- ❑ 123 Forum: What is the Current State of Epoxy-Coated Reinforcing Steel? (123)
- ❑ Hot Topic Session: Concrete Houses—Perfect Solution for Durable Residences (HTC)

MONDAY, APRIL 4, 2011

9:00 AM - 12:00 PM — **3 PDH**

- ❑ Florida Concrete, Part 1 (ACI Florida Suncoast Chapter)
- ❑ FRPRCS-10: Applications of FRP Systems in Reinforced Concrete (440)
- ❑ FRPRCS-10: Performance of FRP Systems Subjected to Extreme Events (440)
- ❑ Performance-Based Specifications and Testing, Part 1 (236/201)
- ❑ Research in Progress (123)

2:00 PM - 5:00 PM — **3 PDH**

- ❑ Bridge Survivability Under Extreme Multi-Hazard Loading (314)
- ❑ Florida Concrete, Part 2 (ACI Florida Suncoast Chapter)

2:00 PM - 5:00 PM (cont.)

- ❑ FRPRCS-10: Durability of FRP Systems (440)
- ❑ FRPRCS-10: FRP Strengthening of Concrete Structures (440)
- ❑ Performance-Based Requirements for Concrete and Sustainability, Part 1 (329/130)

TUESDAY, APRIL 5, 2011

9:00 AM - 12:00 PM — **3 PDH**

- ❑ Economics of SCC (237)
- ❑ New Developments in Chemical Admixtures: An ACI 212 Update (212)
- ❑ Performance-Based Requirements for Concrete and Sustainability, Part 2 (329/130)
- ❑ Shells—They're Not Just for Turtles (334)
- ❑ Silica Fume Concrete in Practice—Recent Case Histories (234)

2:00 PM - 5:00 PM — **3 PDH**

- ❑ Open Paper Session (123)
- ❑ Contractors' Day Session: Concrete—The Strength of Florida (ACI Florida Suncoast Chapter)
- ❑ Accelerated Bridge Design and Construction (343/345)
- ❑ Performance-Based Specifications and Testing, Part 2 (236/201)
- ❑ Reaching Out to the Next Generation (S802)

WEDNESDAY, APRIL 6, 2011

9:00 AM - 12:00 PM — **3 PDH**

- ❑ ACI & the Concrete Industry's Approach to Green Building (130)
- ❑ Advances in Fiber-Reinforced Concrete Durability and Field Applications, Part 1 (544)
- ❑ Performance-Based Specifications and Testing, Part 3 (236/201)
- ❑ Performance of RC Columns under Extreme Loading, Part 1 (441)

2:00 PM - 5:00 PM — **3 PDH**

- ❑ Advances in Fiber-Reinforced Concrete Durability and Field Applications, Part 2 (544)
- ❑ History of Concrete (120)
- ❑ Performance of RC Columns under Extreme Loading, Part 2 (441)

Enter your name and address here

DAILY PDH TOTALS AVAILABLE

Total completed on Saturday, 4/2/11 _____
Total completed on Sunday, 4/3/11 _____
Total completed on Monday, 4/4/11 _____
Total completed on Tuesday, 4/5/11 _____
Total completed on Wednesday, 4/6/11 _____
Total number of PDHs completed _____

ACI Fall 2011 Convention

October 16-20, 2011
Millennium Hotel & Duke
Energy Convention Center
Cincinnati, OH

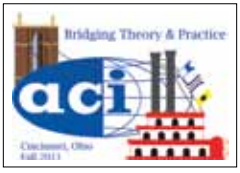
Special events include:

- ACI Foundation Awards
- Katharine and Bryant Mather Lecture Series presented by ACI Past President, Terry Holland
- President Kenneth C. Hover to present at Student Lunch
- Freeze Then Thaw—Contractors' Day
- Bridging Theory and Practice in the Greater Miami Valley—30+ Sessions
- Concrete Mixer at the Cincinnati Museum Center at Union Terminal
- Dinner Cruise on the Ohio River

For more information about the ACI Fall 2011 Convention, go to **www.aciconvention.org**.

Thank you for attending the ACI Spring 2011 Convention!

Future ACI Conventions



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

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

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American Concrete Institute
P.O. Box 9094
Farmington Hills, MI 48333-9094
Phone: 248-848-3700
Fax: 248-848-3701
www.concrete.org