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ACI Spring 2004 Centennial Convention  
March 14-18, 2004  
Hilton Washington  
Washington D.C.

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President
José M. Izquierdo-Encarnación

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James O. Jirsa

Executive Vice President
William R. Tolley

† Deceased
President's Welcome

ACI Members, Guests, and Spouses—Welcome to Washington, D.C.!

ACI has the privilege of hosting its Spring 2004 Centennial Convention in Washington D.C. First I would like to give a warm and special welcome to our committee members, who are the backbone of our Institute. Second, a friendship embrace to all of our international members who, as partners, share with us the common goal of "Progress Through Knowledge."

The Convention theme is "Concrete—A Century of Innovation." There will be 35 educational and technical sessions addressing historical concrete practices. In addition, over 350 committee meetings will take place throughout the week.

Some of the highlights of the convention include: the Opening Session and Awards Program, followed by the Opening Reception, the Centennial Dinner, and the Concrete Mixer at the National Museum of American History on Tuesday. International Day begins on Wednesday with a session presented by the ACI India Chapter, followed by a presentation by Adam Neville at the International Luncheon. The student EPD and FRC competitions are on Sunday, and there's a new educational seminar on Portland Cement Concrete Overlays: State of the Technology, presented jointly by ACI and the Federal Highway Administration on Thursday.

While you are renewing acquaintances with old friends and making new ones, take advantage of the wonderful tours and programs that the ACI National Capital Chapter has arranged specifically for convention attendees and guests. Remember to also visit the ACI Bookstore to pre-order the ACI Centennial coffee-table book, Concrete—A Pictorial Celebration.

I look forward to seeing all of you in the magnificent and historical city of Washington, D.C. Ida will be personally welcoming guests and spouses at the guest hospitality and tour program.

Enjoy the convention, knowing that with your work we are helping the Institute and the concrete industry move forward for the next 100 years.

Enjoy!

José (Pepe) Izquierdo-Encarnación
President
Mayor’s Welcome

Dear ACI Attendees:

On behalf of the residents of the District of Columbia, I am pleased to extend a warm welcome to the American Concrete Institute.

Washington, D.C. is an ideal location for your conference. In 2003, the new convention center opened in the District—the tenth largest conference facility in the United States. It contains a total of 2.1 million square feet of space—68 meeting rooms that can provide satellite uplinks and downlinks for worldwide communications and 44,000 square feet of retail shops, community spaces, and restaurants, as well as an on-site Metro station. Our new convention center is a symbol for the renaissance of our city—moving out of the shadows of the past and growing into a city of the future.

The District of Columbia is an international gateway with neighborhood charm. You can enjoy our national monuments, fine dining, and world-class entertainment while you experience our historic communities, local landmarks, and city culture. Moreover, the District's historic neighborhoods and communities are as interesting as our memorials and museums. In the District, there are at least 66 museums beyond the National Mall, including 13 world-class house museums and the first modern art gallery in the nation. We are also the home to the only art museum in the world dedicated to work by women, and the only museum in the nation dedicated to the building arts. Our city also has the only memorial to African-American Civil War soldiers in the nation where more than 200,000 soldiers are honored. The home of Frederick Douglass, the renowned, 19th century African-American spokesman for abolition and equal rights, is open to visitors in the city’s Anacostia neighborhood.

Thank you for choosing Washington, D.C. as the location for your 2004 Centennial Convention. What better place to spend a few days than in America's hometown?

Sincerely,

Anthony A. Williams
Mayor
Sustaining Members

Allen Engineering Corporation

Ash Grove Cement Co.

Ashford Formula

Baker Concrete Construction

Biaxis Corporation

Boral Material Technologies, Inc.

Cemex Inc.

Construction Materials Engineering Council, Inc.

Construction Technology Laboratories, Inc.

Dayton/Richmond Concrete Accessories

The Erlin Company

Essroc

The Euclid Chemical Company

Sustaining Members as of 2/6/04
Sustaining Members

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Lafarge North America

Lehigh Portland Cement Co.

FTC
FUTURE TECH CONSULTANTS
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Master Builders, Inc.

Holcim
Holcim (US), Inc.

ISG Resources, Inc.

Kleinfelder, Inc.

Sustaining Members as of 2/6/04
CENTENNIAL SPECIAL OFFERS!

Visit the ACI Bookstore located in the Exhibit Hall and browse our Special Centennial Items available for sale:

CENTENNIAL SHIRTS & COFFEE MUGS

Also, you can purchase from hundreds of ACI’s best-selling publications, including:

**MCP-2004**
2004 ACI Manual of Concrete Practice
(Six part set plus index or CD-ROM)

**ACI 318-02**
Building Code Requirements for Structural Concrete

SAVE 10% on the purchase of any one ACI publication at Exhibit Hall.

Limit one coupon per person.
Must present coupon when ordering.
Expires 03.17.04.
ACI Centennial Donors

Platinum
Baker Construction
Charles Pankow Builders, Ltd
Lehigh Cement Company
Lehigh Southwest Cement Company
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Gold
The Cagley Group
Degussa, Inc.
Earth Tech
Tarmac/Titan America

Silver
ACI Greater Michigan Chapter
Construction Technology Laboratories, Inc.
Dayton Superior Corporation
FBA, Inc.
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Supporting
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ACI Carolinas Chapter
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ACI New Mexico Chapter
ACI Northern California/Western Nevada Chapter
ACI Paris Chapter
ACI Southern California Chapter
Arizona Portland Cement
California Portland Cement
Catalina Pacific Concrete
Charles G. Salmon
Edward G. Nawy
Engelman Construction, Inc.

Centennial donors listing as of 2/11/04
Supporting—continued
Epic Group, Inc.
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Centennial donors listing as of 2/11/04
Convention Sponsors

Presidential
ACI National Capital Chapter
Bechtel Corporation
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St. Lawrence Cement/Holcim, Inc.

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ACI Greater Michigan Chapter
ACI Lebanon Chapter
ACI Louisiana Chapter
ACI New England Chapter
ACI Northern California & Western Nevada Chapter
ACI Paris Chapter
ACI Virginia Chapter
Aggregate Industries
Baker Concrete Construction
The Bartley Corporation
Construction Technology Laboratories, Inc.
Lafarge North America Inc.
National Ready Mixed Concrete Association
Newington Concrete Corporation
Structural Preservation Systems
Superior Concrete Materials, Inc.

Convention sponsor listing as of 2/16/04 12
Convention Sponsors

Congressional
ACI Arizona Chapter
ACI Central Texas Chapter
ACI Delaware Valley Chapter
ACI Georgia Chapter
ACI Greater Miami Valley Chapter
ACI Illinois Chapter
ACI Las Vegas Chapter
ACI Maryland Chapter
ACI New Jersey Chapter
ACI New Mexico Chapter
ACI Northeast Texas Chapter
ACI Pittsburgh Area Chapter
ACI Rocky Mountain Chapter
ACI San Diego Chapter
ACI Southern California Chapter
ACI West Michigan Chapter

Brothers Concrete Construction, Inc.
Nicholas J. Carino
Ehlert/Bryan, Inc.
Essroc Cement
Hilton Washington
Keystone Cement Company
Rockville Fuel & Feed
Separation Technologies, Inc.
Shirley Contracting Company, LLC
SMC Concrete Construction, Inc.
Swope & Associates, Inc.
Tindall Corporation
URS Corporation
Wiss, Janney, Elstner Associates, Inc.

Convention sponsor listing as of 2/16/04
Convention Sponsors

Cabinet
ACI India Chapter
ACI Ontario Chapter
ACI South Texas Chapter
ACI United Arab Emirates Chapter
ACI Western New York Chapter
Advance Engineers Ltd.
Arban & Carosi, Inc.
Carolina Stalite Company
DMJM
Maryland Ready Mix Concrete Promotion Council
Thomas J. Pasko, Jr.
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Rathgeber/Goss Associates
Drs. Sharda & Gajanan Sabnis
L. M. Scofield Company
The Shockey Precast Group
St. Marys Cement Inc.
Tadger-Cohen-Edelson Assoc., Inc.
Wilson Technologies, LLC

Convention sponsor listing as of 2/16/04
Centennial Conferences

ACI will sponsor centennial conferences during the Centennial year. These remaining conferences will reflect the international influence of concrete around the world. The three conferences will take place in:

**Brazil**
Concrete—America’s Integrating Factor
April 25 - 27, 2004
Hotel Novotel, Center Norte - Sao Paulo - SP - Brazil

**Australia/New Zealand**
Meeting the Challenges Posed by Major Infrastructure Projects
September 16 - 19, 2004—Queenstown, New Zealand
September 20 & 21—Sydney, Australia
September 23—Perth, Australia

**Paris, France**
Architecture and Concrete
December 6 & 7, 2004

Watch for additional information on these significant events.

Please visit http://www.concrete.org for more information on this and all the Centennial events or contact us at 100years@concrete.org or contact Thomas Adams at Thomas.Adams@concrete.org.
The ACI Northern California/Western Nevada Chapter is proud to host the Fall 2004 Centennial Convention. Please join us as we take a look at the ACI of the future.

Stop by the chapter desk in the Exhibit Hall to learn more about the San Francisco Convention.

**Early-Bird Registration**

Register today for the Fall 2004 Centennial Convention in the Cyber Cafe located in the Exhibit Hall at the Hilton Washington.

**Exhibit Hall**

**Tour Highlights include:**

- **Sunday, October 24**–San Francisco, Tastes of the City
- **Monday, October 25**–The Best of the Wine Country
- **Tuesday, October 26**–Alcatraz: The Rock
- **Wednesday, October 27**–A Tasty Education at the California Culinary Academy
- **Thursday, October 28**–Chinatown Discovery–A Walking Excursion

**Concrete Mixer of the Future**–Enjoy the sights of beautiful San Francisco Bay aboard the San Francisco Belle! Four decks of food, beverages, music, and entertainment. Relax, chat and dance to your favorite 1940s tunes, explore the wonders of the future of concrete at the Lunar Rock & Ready Mix, or for a more relaxed atmosphere, climb to the top deck for up-close and personal views of the bay.
President
Hamid Ahmady
Suncoast Post-Tension

Vice President
Shiraz D. Tayabji
Construction Technology Laboratories, Inc.

Past President
Michael L. Lenkin
Miller & Long Concrete Construction

Treasurer
Matthew C. Farmer
Wiss, Janney, Elstner Associates, Inc.

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Jim Munro
Rockville Fuel & Feed

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Stanley J. Murphy
ECS, Ltd

Fernando Rodriguez
Concrete Engineering, Inc.
Honorary Chair
A. James Clark
Clark Construction Group

Co-Chairs
Debrethann R. Cagley Orsak
Cagley & Associates

Gajanan M. Sabnis
Howard University

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Federal Highway Administration

Secretary
James H. Pielert
AASHTO

Contractor’s Day
James H. Baldrige
ECS, Ltd

Exhibits
Tracy Knott
ECS, Ltd
Fundraising
Edwin O. Wiles
SI Corporation

Guest Program
Sharda G. Sabnis
Armed Forces Institute of Pathology

Publicity
Roy A. Eller
Newington Concrete

Social Activities
Rick Meininger
Consultant

Student Program
Tom Ouska
Structural Preservation Systems

Technical Program
Nicholas J. Carino
National Institute of Standards and Technology

Centennial Materials
Thomas J. Pasko, Jr.

Host Chapter Desk
Ron Holsinger
AASHTO

The ACI National Capital Chapter desk is located inside the Exhibit Hall.
Convention Registration

The ACI staff is available to answer your convention questions at the ACI registration desk during the following hours:

- Saturday 2:00 PM - 6:00 PM
- Sunday 8:00 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

Educational Seminar Registration

Lincoln E

Thursday 7:45 AM - 8:00 AM

Name Badges

ACI uses ribbons to identify attendees. Name badge ribbons are color-coded for identification as follows:

- Member: Navy
- Guest: Tan
- Student: Green
- Staff: Maroon

Please Note: Name badges MUST be worn to all functions for admittance. **You will not be permitted to board the bus for the Concrete Mixer and enter the Smithsonian without a name badge.**

Attention ACI Members!

First-time convention attendees have a capitol building on their badge. Please welcome them to the convention.

Speaker Ready Room

Located in the State Room, Terrace Level

Friday, March 12 - Wednesday, March 17

7:00 AM - 7:00 PM

Copiers and PCs with printers are available for speakers, moderators, and chairs.

Schedule Changes

Cancellations, additions, and location changes in the event schedule will be posted daily outside the Exhibit Hall.
**General Information**

**Beverage Breaks**
Beverages will be available at the following times courtesy of ACI. Quantities are limited.

**Sunday**
- Coffee: 7:30 AM - 10:00 AM
- Soda: 1:00 PM - 4:00 PM

**Monday**
- Coffee: 7:30 AM - 10:00 AM
- Soda: 1:00 PM - 4:00 PM

**Tuesday**
- Coffee: 7:30 AM - 10:00 AM
- Soda: 1:00 PM - 4:00 PM

**Wednesday**
- Coffee: 7:30 AM - 10:00 AM

**Alcohol Policy**
Nonalcoholic beer and soft drinks are available at all ACI-sponsored receptions. No alcohol will be served to anyone under the age of 21.

**Cyber Cafe**
Need to check your e-mail or register for the Fall 2004 Centennial Convention in San Francisco? Stay connected to home and work at the Cyber Cafe.

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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<tr>
<td>Saturday</td>
<td>2:00 PM - 6:00 PM</td>
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<td>Sunday</td>
<td>8:00 AM - 5:00 PM</td>
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<td>Monday</td>
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<tr>
<td>Tuesday</td>
<td>8:00 AM - 5:00 PM</td>
</tr>
<tr>
<td>Wednesday</td>
<td>8:00 AM - 12:00 PM</td>
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Wireless Internet is available FREE of charge in the hotel lobby and lounge.

Audio and video taping are strictly prohibited without the expressed written consent of the speaker.

In consideration of your fellow attendees, please turn off cell phones and pagers when attending
Local Information
The ACI National Capital Chapter has prepared a special Centennial package for you. The packages will be distributed at the ACI Registration Desk in the Exhibit Hall of the Hilton Washington.

Hilton Washington Restaurants
*Capital Cafe*—The best of American cooking a la carte or buffet service. The Capital Cafe is open for breakfast, lunch, and dinner, Sunday-Saturday, 6:30 AM - 11:30 PM.

*1919 Grill*—Regional American cuisine, featuring steaks, seafood, and pasta. The 1919 Grill is open for dinner Sunday-Saturday, 5:00 PM - 11:30 PM.

*McClellan’s*—Open for lunch and late evening snacks Sunday - Saturday, 11:30 AM - 11:00 PM.

*Lobby Lounge*—Open for drinks Sunday -Saturday, 11:30 AM - 11:00 PM.

*The Concourse Deli*—The deli specializes in quick breakfast and lunch items, serving sandwiches, salads, snacks, and beverages including Starbucks coffee. The Deli is open for breakfast and lunch Sunday -Saturday, 7:00 AM - 4:00 PM.

Transportation Desk
To make advance airport shuttle reservations, visit the transportation desk located on the Terrace Level, Sunday through Saturday, 7:00 AM to 7:00 PM.

Transportation Around Town
Washington, D.C. has many different means of transportation around town. One of the most convenient and economical is the Metrorail subway system. To view the Metrorail schedules and for more information, go to [http://www.metroopensdoors.com/](http://www.metroopensdoors.com/). Taxis are also available from the main lobby of the hotel.
General Information

Tour & Concrete Mixer Transportation
All tours and buses for the Concrete Mixer will depart from the Terrace Level Exit of the Hilton Washington. Please note: You must wear your name badge to board the bus for the Concrete Mixer.

Future Convention Information
Visit the Cyber Cafe to register for the ACI Fall 2004 Centennial Convention in San Francisco. If you would like to receive information for future ACI conventions via e-mail, please e-mail your name to conventions@concrete.org.
Where's That Meeting Room?

Lobby Level
1919 Grill
Cabana Suite C326
Cabana Suite C327
Cabana Suite C328
Cabana Suite C329
Cabana Suite C330
Canaba Suite C331
Cabana Suite C332
Cabana Suite C333

Terrace Level
Adams
Bancroft
Caucus Room
Chevy Chase
Conservatory
Dupont
Edison
Farragut
Grant
Hamilton
Independence
International Terrace
Jackson
Kalorama
Map Room
State Room

Concourse Level
Cabinet Room
Exhibit Hall
Georgetown East
Georgetown East & West
Georgetown West
Hemisphere Room
International Ballroom
International Ballroom Center
International Ballroom East
International Ballroom West
Jefferson East
Jefferson West
Lincoln East
Lincoln West
Military Room
Monroe East
Monroe West
Thoroughbred Room

Solar Suites
1101–1st floor
2101–2nd floor
4101–4th floor
8101–8th floor
9101–9th floor

Abbreviation
1919 Grill
C326
C327
C328
C329
C330
C331
C332
C333
Adams
Bancroft
Caucus
Chevy Chase
Conservatory
Dupont
Edison
Farragut
Grant
Hamilton
Independence
Intl Terrace
Jackson
Kalorama
Map
State
Cabinet
Exhibit Hall
Georgetown E
Georgetown
Georgetown W
Hemisphere
Intl Blrm
Intl Blrm Ctr
Intl Blrm E
Intl Blrm W
Jefferson E
Jefferson W
Lincoln E
Lincoln W
Military
Monroe E
Monroe W
Thoroughbred

24
The American Concrete Institute (ACI) is pleased to announce the Seventh International Symposium on Utilization of High-Strength/High Performance Concrete to be held in Washington, D.C., in June 2005.

The symposium will continue the success of previous symposia held in Stavanger, Norway; Berkeley, California, USA; Lillehammer, Norway; Paris, France; Sandefjord, Norway; and Leipzig, Germany. The symposium will bring together engineers and material scientists from around the world to discuss topics ranging from the latest applications to the most recent research on high-strength and high performance concrete.

Topics will include:

- National Reports
- History and Definition
- Materials and Mix Design
- Structural Design
- Construction Techniques
- Case Histories
- Codes and Specifications
- Quality Control
- Cost Effectiveness
- Materials Research
- Structural Research

For more information go to:
http://www.concrete.org/events/conferences/7th_International_Symposium.htm
The ACI National Capital Chapter along with the American Concrete Institute thank all exhibitors for making the Spring 2004 Centennial exhibits a success.

Exhibit Hours:
Sunday  8:00 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  

Exhibitors

Sponsored by the ACI National Capital Chapter

Exhibit Hall

American Shotcrete Association 403
The American Shotcrete Association provides education and training on the use of shotcrete in concrete construction and repair. The ASA also supports the ACI Nozzleman Certification program. These programs serve to promote the use of high-quality shotcrete as a cost-effective solution to owners and designers.

Amitech U.S.A., Ltd 225
Amitech U.S.A., Ltd produces Meyer Polycure concrete pipe and manholes and Flowtite fiber-glass reinforced pipe for sanitary collection and trunk sewers, microtunneling applications, water transmission lines, and pipe rehabilitation.

Aquafin, Inc. 326
Aquafin, Inc. offers a full range of products geared to waterproofing, vaporproofing, restoration, and protection of concrete, block, masonry and similar structures. The high quality products are backed up by professional technical advice and outstanding customer service. For proven, cost-effective solutions for your water-vapor related problems, call 410-964-1410 or visit www.aquafin.net.

Axim/Essroc Italcementi Group 109
Axim/Essroc Italcementi Group produces admixtures, grinding aids and other specialized chemicals to enhance the performance of concrete and improve cement production efficiency. Axim/Essroc Italcementi Group was founded with the intentions of being able to provide the concrete industry with quality products, followed up by extensive service from the world’s most knowledgeable employees.

Exhibitor list as of 2/9/04. An updated listing will be located inside the Exhibit Hall.
### Exhibitors

<table>
<thead>
<tr>
<th>Exhibitor Name</th>
<th>Booth #</th>
</tr>
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<tbody>
<tr>
<td><strong>CMEC</strong></td>
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</tr>
<tr>
<td>CMEC is a not-for-profit organization whose goal is to improve the quality of the production, inspection, and testing of construction materials through the accreditation, education, and certification programs it provides. CMEC was founded in June 1983, and is now recognized both nationally and internationally for its accreditation and education programs.</td>
<td></td>
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<tr>
<td><strong>Consulting Engineers Corporation</strong></td>
<td>210</td>
</tr>
<tr>
<td><strong>CTL</strong></td>
<td>226</td>
</tr>
<tr>
<td>CTL specializes in structural/architectural engineering, and materials testing and technology and evaluates structures, develops and manages repair projects and solves structural behavior, construction, and materials challenges. Services include materials testing and analysis; microscopy; façade, floor, and paving consulting; NDT; structural instrumentation; ICC-ES certified construction system development; structural forensics; and litigation support.</td>
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</tr>
<tr>
<td><strong>DECON USA</strong></td>
<td>110</td>
</tr>
<tr>
<td>Decon® Studrall® provide an efficient solution to punching shear in flat slabs. They are easy to install and may eliminate the need for column capitals and stirrups. Studrall® have been specified and successfully installed on thousands of projects worldwide. Introducing hairpin replacement Studrail®, Foundation Studrail®, and the double headed Studrail®.</td>
<td></td>
</tr>
<tr>
<td><strong>Eastern Waterproofing &amp; Restoration</strong></td>
<td>309</td>
</tr>
<tr>
<td><strong>Engineering Consulting Services, Ltd.</strong></td>
<td>205</td>
</tr>
<tr>
<td>Engineering Consulting Services, Ltd. (ECS) is a consulting firm specializing in geotechnical, environmental, and construction materials engineering, with over 23 offices along the Eastern Seaboard and Midwest. ECS employs a staff of more than 750 people, including registered professional engineers and geologists, certified laboratory technicians and construction inspectors, and field engineers.</td>
<td></td>
</tr>
<tr>
<td><strong>ERICO</strong></td>
<td>402</td>
</tr>
<tr>
<td>Pioneering the Next Century of Innovation</td>
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</tr>
<tr>
<td>ERICO® was incorporated in Cleveland, Ohio, in 1903 and, over the past century, has established a reputation for providing engineering excellence and innovative product solutions. ERICO manufactures LENTON® mechanical rebar splices, the most widely used mechanical rebar splices in the world today. Call 1-800-462-4712 or visit <a href="http://www.ericocom">www.ericocom</a>.</td>
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</tr>
</tbody>
</table>

*Exhibitor list as of 2/9/04. An updated listing will be located inside the Exhibit Hall.*
<table>
<thead>
<tr>
<th>Exhibitor Name</th>
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</thead>
<tbody>
<tr>
<td>eTEC</td>
<td>203</td>
</tr>
<tr>
<td>eTEC, Engineering Training and Education Consultants, offers quality and affordable CD-based training and educational products to the construction industry. eTEC’s first offering was a training CD for ACI's Concrete Field Testing Technician Certification. eTEC has partnered with Forney, Inc., and NRMCA to distribute its CDs. See more at <a href="http://www.go2etec.com">www.go2etec.com</a>.</td>
<td></td>
</tr>
<tr>
<td>FORTA</td>
<td>407</td>
</tr>
<tr>
<td>FORTA continues to be the most respected name in the synthetic fiber industry. From its revolutionary beginning in Grove City, Pennsylvania, FORTA Corporation has grown to become a worldwide leader in synthetic fiber research and development. From a single grade of fiber, FORTA has expanded their product line to include an entire family of fibers - tailored to specific applications and demands of the international concrete community. Coupled with a dedicated and knowledgeable management, staff, and workforce, FORTA Corporation will continue to lead the way in building a better concrete future.</td>
<td></td>
</tr>
<tr>
<td>Fox Industries, Inc.</td>
<td>206</td>
</tr>
<tr>
<td>Fox Industries, Inc., manufactures engineered products to restore and protect concrete, steel, and wood for the industrial, commercial building, marine, transportation, and public utilities industries. The complete line includes epoxy, urethane, acrylic, polyurea, and cementitious coatings, grouts, membranes, bonding agents, and custom-made fiberglass shapes and forms.</td>
<td></td>
</tr>
<tr>
<td>Germann Instruments, Inc.</td>
<td>300 &amp; 302</td>
</tr>
<tr>
<td>Germann Instruments, Inc., provides testing equipment for nondestructive investigation of concrete structures, durability of new structures, service life estimation, fast track construction, structural integrity, corrosion investigation, repair quality, and monitoring.</td>
<td></td>
</tr>
<tr>
<td>Grace Construction Products</td>
<td>108</td>
</tr>
<tr>
<td>Grace Construction Products makes specialty construction chemicals and building materials, including value-added concrete admixtures and fibers to improve the strength, durability, and chloride resistance of concrete; cement additives to improve production and quality; masonry products for block, pavers, and retaining wall producers; and waterproofing, fire protection, and fire stops materials.</td>
<td></td>
</tr>
</tbody>
</table>

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Exhibitors

<table>
<thead>
<tr>
<th>Exhibitor Name</th>
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<tbody>
<tr>
<td>ISG Resources, Inc.</td>
<td>324</td>
</tr>
<tr>
<td>Operating coast to coast, ISG Resources is the nation's leading marketer of coal combustion products. ISG specializes in serving ready mixed concrete producers, structural fill contractors, and a variety of building products manufacturers. ISG also develops and manufactures an array of innovative products that utilize high volumes of fly ash.</td>
<td></td>
</tr>
<tr>
<td>James Instruments, Inc.</td>
<td>105</td>
</tr>
<tr>
<td>James Instruments, Inc., is the leading manufacturer of non-destructive test equipment for concrete and other coarse grained materials, supplying the instruments that measure and analyze strength, structure, corrosion, and moisture in concrete, and more.</td>
<td></td>
</tr>
<tr>
<td>Kip Incorp</td>
<td>204</td>
</tr>
<tr>
<td>Kip Incorporated is a southern California-based general engineering contractor specializing in underground storm drain systems and heavy concrete structures. The general scope of work includes, in addition to pre-cast pipe construction, concrete flood control channels and reinforced concrete box culverts, the unique ability to construct a pipe system as cast-in-place concrete pipe, and a specialized construction process where the pipe is manufactured and installed in one operation, saving both time and construction costs.</td>
<td></td>
</tr>
<tr>
<td>Lafarge North America</td>
<td>305 &amp; 307</td>
</tr>
<tr>
<td>Lafarge is a cement, slag cement, masonry cement, fly ash, and concrete manufacturer.</td>
<td></td>
</tr>
<tr>
<td>Lehigh Cement Company</td>
<td>400</td>
</tr>
<tr>
<td>Lehigh Cement Company has served the construction industry in North America for more than 100 years as a producer of high quality portland, blended, and specialty cements and construction materials. The White Cement Division of Lehigh and its affiliates supply white cement to customers throughout the United States and Canada.</td>
<td></td>
</tr>
<tr>
<td>Master Builders, Inc.</td>
<td>327</td>
</tr>
<tr>
<td>Master Builders, Inc. is a leading provider of innovative chemical and mineral admixtures used to improve placing, pumping, finishing, and the appearance of concrete in the ready-mix, precast, manufactured concrete products, underground construction, and paving markets. Master Builders admixtures ensure high strength and durability, inhibit corrosion of steel embedded in concrete, reduce permeability, and improve resistance to chemical attack.</td>
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</tbody>
</table>

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<tbody>
<tr>
<td>Myers Associates</td>
<td>304</td>
</tr>
<tr>
<td>Myers Associates is an authorized dealer for Forney, Gilson, Humboldt, James Instruments, Soil Test, Deslauriers, etc. Myers Associates also sells concrete testing equipment.</td>
<td></td>
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<tr>
<td>NMCA</td>
<td>406</td>
</tr>
<tr>
<td>NRMCA</td>
<td>308</td>
</tr>
<tr>
<td>OSCODA PLASTICS, Inc.</td>
<td>404</td>
</tr>
<tr>
<td>Precast/Prestressed Concrete Institute</td>
<td>405</td>
</tr>
<tr>
<td>Headquartered in Chicago, PCI is an association of more than 2000 members including precasters, suppliers, engineers, academicians, and students. The trade association has continued to be a dynamic force in the precast industry's growth since the early 1950s. PCI's plant certification program, one of the world's most recognized and respected quality assurance programs, gives the building industry precast, prestressed concrete of inherent integrity for architectural and structural construction. Visit <a href="http://www.pci.org">www pci org</a>—it's a comprehensive &quot;one-stop resource&quot;.</td>
<td></td>
</tr>
<tr>
<td>Pure Technologies, Ltd.</td>
<td>301</td>
</tr>
<tr>
<td>Pure Technologies, Ltd., specializes in the manufacture, supply, and management of remote structural instrumentation and surveillance systems. Pure's proprietary SoundPrint Acoustic Monitoring System is used throughout the world to detect and locate failures of tensioned reinforcement in bridges, pipelines, and buildings. Automated Internet-based data transmission, centralized data processing, and web-based reporting provides timely, cost-effective information to owners and engineers.</td>
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</tr>
<tr>
<td>Roadware, Inc.</td>
<td>208</td>
</tr>
<tr>
<td>Repair cracks and spalls with Roadware 10 Minute Concrete Mender. With a surface tension one-third that of water, Concrete Mender penetrates deep into cracks and spalls, bonding to aggregate within the concrete. Complete load transfer is achieved in just 10 minutes. Works in freezing cold and desert heat.</td>
<td></td>
</tr>
<tr>
<td>Sabnis, Inc.</td>
<td>202</td>
</tr>
<tr>
<td>Sabnis, Inc., founded in 1985,(formerly Technology Transfer Consultants) provides technology and services that build infrastructures for developing countries, improving their overall quality of life. Its principal is Dr. Gajanan M. Sabnis, both an Honorary Member of ASCE and Fellow of ACI and the Institution of Engineers (India). Sabnis, Inc. has established offices in Silver Spring, Maryland; Mumbai, India; and, Abu Dhabi, UAE. For more information, visit <a href="http://www.Sabnis.com">www.Sabnis.com</a>.</td>
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<tr>
<td><strong>Sika Corporation</strong></td>
<td>103</td>
</tr>
<tr>
<td>Sika Corporation Construction Products Division of Lyndhurst, NJ, is a technology leader with over 90 years of experience in concrete materials and restoration technology. Sika's product line includes concrete admixtures, sealants, adhesives, corrosion inhibitors, specialty mortars, epoxy resins, structural strengthening systems, grouts, anchoring adhesives, overlays, and protective coatings. Full service sales and technical offices support customers nationwide. Visit the Sika Corporation Construction Products Division website at <a href="http://www.sikausa.com">www.sikausa.com</a>.</td>
<td></td>
</tr>
<tr>
<td><strong>Silica Fume Association</strong></td>
<td>401</td>
</tr>
<tr>
<td>The Silica Fume Association, through a cooperative agreement with the Federal Highway Administration, provides high-performance concrete technology transfer to transportation departments and to the design and construction communities.</td>
<td></td>
</tr>
<tr>
<td><strong>St. Lawrence Cement</strong></td>
<td>303</td>
</tr>
<tr>
<td>St. Lawrence Cement is a leading producer and supplier of products and services for the construction industry, namely cement and GranCem. Through its various units, St. Lawrence Cement operates cement plants, distribution terminals, and mineral component plants throughout the Northeast and into Canada.</td>
<td></td>
</tr>
<tr>
<td><strong>Structural Group</strong></td>
<td>209</td>
</tr>
<tr>
<td>Structural Group is comprised of three dynamic and diversified companies: Structural Preservation Systems, Inc., is the largest specialty contractor focusing on structural repair and strengthening; VSL is the technical leader in the post-tensioning industry; and Pullman Power leads the industry in chimney, silo, and stack construction, maintenance, and repair. For more information, visit <a href="http://www.structural.net">www.structural.net</a>.</td>
<td></td>
</tr>
<tr>
<td><strong>TND Diana, North America</strong></td>
<td>107</td>
</tr>
<tr>
<td>DIANA is a well proven and tested software with a reputation for handling the most difficult technical problems relating to design and assessment activities in concrete, steel, soil, rock, and structure-soil interaction. The use of DIANA will minimize project risks and reduce the cost of conservatism by providing reliable, accurate, and relevant results.</td>
<td></td>
</tr>
<tr>
<td><strong>Valcourt Building Services</strong></td>
<td>111</td>
</tr>
<tr>
<td><strong>Vector Corrosion Technologies</strong></td>
<td>201</td>
</tr>
<tr>
<td>Vector Corrosion Technologies specializes in products and services for extending the service life of concrete structures subject to deterioration caused by corrosion of the reinforcing steel and alkali-silica reaction. Vector's services include concrete condition/corrosion testing, and the supply and installation of the appropriate concrete repair and corrosion protection system.</td>
<td></td>
</tr>
</tbody>
</table>

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Demonstrations
Hosted by the ACI National Capital Chapter

WBA division of Master Builders
Monday 9AM - 10AM; 4PM - 5PM
Tuesday 9AM - 10AM; 2PM - 3PM

WBA will demonstrate the use of FRP/carbon fiber composite systems.

Sika Corporation
Monday 10AM-11 AM; 2PM - 3PM
Tuesday 10AM-11 AM; 4PM - 5PM

Sika Corporation will give an introduction to corrosion basics and magnitude, an overview of Total Corrosion Management Technologies and related services; galvanic protection, corrosion inhibitors, re-alkalization, chloride extraction, and cathodic protection.

WR Grace Construction
Monday 11AM-12PM; 3PM-4PM
Tuesday 11AM-12PM; 3PM-4PM

WR Grace will introduce reinforcing fiber into concrete systems.

Mobile Concrete Laboratory
Florida Avenue
Sunday – Tuesday
10:00 am – 2:00 pm

Visit the Federal Highway Administration’s Mobile Concrete Laboratory located on Florida Avenue, accessible through the Exhibit Hall. See the latest in conventional and innovative concrete testing technology, housed in a fully equipped mobile concrete testing facility. Bring your questions.

Ingalls Building Drawings
Exhibit Hall
Stop by and see the original drawings of the world’s first reinforced concrete office building.
Student Egg Protection Device & FRC Bowling Ball Competitions
11:30 AM - 5:00 PM

Sponsored by Committee E 801 and the ACI National Capital Chapter

Don't miss these exciting competitions as more than 20 teams from around the world compete. All convention attendees are welcome to attend.

Opening Session & Awards Program
5:15 PM - 6:30 PM

Sponsored by ACI

Celebrate the opening of the first Centennial Convention by attending this very special event. Witness the induction of 36 new Fellows, five Honorary Members, and honor over 25 other individuals and chapters for their contributions to ACI and the concrete community. All convention attendees are invited to attend this event.

*Henry L. Kennedy—1953 Fall Convention*
Awardees

Honorary Members

Robert F. Mast
Roberto Meli
Edward G. Navy
Ramesh N. Raikar
James M. Shilstone, Sr.

Fellows

Wayne S. Adaska
Robert B. Anderson
Vartan Babakhanian
Maher A.M. Bader
Shrinivas B. Bhide
Edwin G. Burdette
Tsung-Li T. Chen
Mohamed Nasser A. N. Darwish
Boris Z. Dragunsky
Kevin J. Folliard
Hector Gallegos
Daniel J. Green
Roger Green
Bilal S. Hamad
H. R. (Trey) Hamilton, III
Charles S. Hanskat
G. Terry Harris, Sr.
L. S. (Paul) Johal
Ali R. Khaloo
Jeri A. Kolodziej
Daniel Kuchma
Kenneth M. Lozen
Kevin A. MacDonald
Ross S. Martin
Bruno Massicotte
Yi-Lung Mo
Richard S. Orr
Jay H. Paul
Stephen P. Pessiki
William F. Rossi
Jean-Claude M. Roumain
Stephen J. Seguirant
Barendra K. Talukdar
Faisal Fouad Wafa
Ronald J. Watson
Min-Hong Zhang

Personal Awards

Arthur R. Anderson Award—Clifford L. Freyermuth
Roger H. Corbeta Concrete Constructor Award—Alphonse E. Engelman
Joe W. Kelly Award—Sher Ali Mirza
Henry L. Kennedy Award—Catherine E. French
Alfred E. Lindau Award—S.K. Ghosh
Henry C. Turner Medal—L. Michael Shylowski
Charles S. Whitney Award—Charles Pankow Builders, Ltd.
Awardees—continued

Young Member Award for Professional Achievement

Alejandro Durán-Herrera
Andrea J. Schokker

Delmar L. Bloom Award for Distinguished Service

Stephen B. Tatro
James E. Cook
Sami H. Rizkalla
Tony C. Liu

Chapter Activities Award

Robert H. Kuhlman
Naji M. Al-Mutairi

Walter P. Moore, Jr. Faculty Achievement Award

W. Jason Weiss

CRC Robert E. Philleo Award

Nicholas J. Carino
Awardees—continued

CRC Arthur J. Boase Award

Michael P. Collins

Wason Medal for Most Meritorious Paper

Norman L. Scott

Wason Medal for Materials Research

Long T. Phan
Nicholas J. Carino

ACI Construction Practice Award

Richard Morin
Gilbert Haddad
Pierre-Claude Aitcin

ACI Structural Research Award

James G. MacGregor

ACI Design Practice Award

Tjen Nung Tjhin
Daniel Kuchma
Opening Reception
Welcome to Washington D.C.!
6:30 PM - 7:30 PM

Sponsored by the ACI National Capital Chapter

Start your convention week by visiting the exhibit area, meeting other attendees, and interacting with top industry professionals. A cash bar and light snacks will be available during this networking hour. Following the reception, head out to dinner at one of Washington, D.C.'s fine restaurants. See the hotel concierge for dinner recommendations and reservations.

Note: Beverages for this event must be paid for with cash and cannot be charged to your room.

Hot Topic Session—Reducing the Cost of Tolerance Incompatibility Issues
7:30 PM - 10:00 PM

Sponsored by the Hot Topic Committee
Session Moderator: John C. Hukey

Speakers representing cast-in-place and precast concrete, structural steel, and curtain walls will illustrate situations in which conflicting tolerance problems cause construction disputes. They will also suggest ways for solving problems and avoiding continuing claims and counterclaims. All ACI attendees are welcome to attend this session.
Special Events—Monday, March 15

✓ Student Lunch
12:00 PM - 2:00 PM
$28 per person

Sponsored by the ACI National Capital Chapter

Speaker: Peter H. Emmons
CEO
Structural Group
Baltimore, MD

Topic: Career Paths in Concrete Construction—Choosing a Company or Organization That Fits Your Needs

Emmons will provide tips on interviewing, questions to ask, career vision, and discuss leadership skills. A buffet lunch will be served.

Awards for the first, second, and third place winners in the Student Egg Protection Device and FRC Bowling Ball competitions will be announced. In addition, the EAC award for the Speaker of the Year will be given to S.K. Ghosh.

Tickets may be purchased at the ACI Registration Desk until 24 hours prior to the event. Please notify the ACI Registration Desk if you have any dietary restrictions.

Women in ACI Reception
5:00 PM - 6:00 PM
Sponsored by ACI

Get-together, relax and exchange memories of ACI. This gathering is a great networking opportunity and is free to all wishing to attend. Light refreshments and a cash bar will be available. Note: Beverages for this event must be paid for with cash and cannot be charged to your room.

✓ Separate Fee Required
Centennial Dinner
6:30 PM – 11:00 PM
$50 per person
Hosted by ACI

Thank you to the Centennial Dinner Sponsors (as of 2/11/04)
The Cagley Group
Lehigh Cement Company
Master Builders, Inc.
Portland Cement Association
Sika

Take a look back at ACI’s first century and honor individual contributions to the concrete community. ACI’s Past Presidents and Honorary Members will be individually recognized.

A cocktail reception will be held from 6:30 PM - 7:00 PM in the Jefferson Foyer. A band will delight attendees with dancing music following the four-course meal and presentations. Due to the significance of this event, a coat and tie are required. Black tie is optional.

Tickets may be purchased at the ACI Registration Desk until 10 AM on Monday, March 15, 2004. Please notify the ACI Registration desk if you have any dietary restrictions.

123 Forum: Research for the Future—Who Pays?
7:00 PM - 10:00 PM

Sponsored by Committee 123

We all know that research is the backbone of inventions and innovations and is critical to keep organizations and nations competitive in this global economy. We also know that sources of research funding are limited and many times innovative ideas do not get a chance to be explored. We need to take a hard look at our approach for research funding. Is research funding the primary responsibility of public agencies? Is private industry an active participant in funding research and contributing its fair share? Do we need to come up with innovative mechanisms of research sponsorship, partnering, and cost sharing? How could a broader collaboration among researchers make better and more effective use of available research funding? Our panelists in Washington, D.C. will address these and many other questions, and after discussing the subject with them you should be able to answer the question of who should take the responsibility of research funding.

Separate Fee Required
Contractor’s Day Lunch

12:00 PM - 2:00 PM
$32 per person

Hosted by the Construction Liaison Committee and the ACI National Capital Chapter

Speaker: Allyn Kilsheimer
President
KCE Structural Engineers
Washington, D.C.

Topic: Phoenix Project—Rebuilding the Pentagon After 9/11

Kilsheimer was the Structural Engineer of Record for the Phoenix Project that repaired damage to the Pentagon caused by the September 11, 2001, terrorist attack. His presentation chronicles the achievement and dedication of the many companies and people who restored 400,000 square feet of a concrete structure that had been the offices for the Headquarters of the Department of Defense (DoD). This enormous reconstruction effort was completed ahead of schedule and under budget; it was reoccupied by the DoD before the one-year anniversary of the attack. A buffet lunch will be served.

Tickets may be purchased at the ACI Registration Desk until 24 hours prior to the event. Please notify the ACI Registration Desk if you have any dietary restrictions.

Separate Fee Required
Concrete Mixer—America on the Move
National Museum of American History
Smithsonian Institute
7:00 PM – 9:00 PM

Sponsored by the ACI National Capital Chapter

The Smithsonian Institute, National Museum of American History, welcomes ACI attendees to a special Centennial Concrete Mixer celebration. Join friends and colleagues while enjoying beverages and light hors d'oeuvres, compliments of the ACI National Capital Chapter. **Note: Drink tickets are NOT needed for this event.**

Some of the exhibitions which will be open during the Concrete Mixer include: America on the Move, The American Presidency, The Beatles! Backstage and Behind the Scenes—Photo Show, The Tumultuous Fifties—A View From the New York Photo Archives, First Ladies—Political Role and Public Image, and Bon Appetit—Julia Child’s Kitchen. These are just a few!

All ACI attendees MUST wear a name badge to board the bus and enter the Smithsonian. Buses will depart from the Terrace Level Exit of the Hilton Washington.

West Virginia Senator Nathan B. Scott and his wife with their automobile in front of the U.S. Capitol, circa 1905
Special Events—Wednesday, March 17

National Institute of Standards and Technology Tour
6:45 AM - 12:00 PM
SOLD OUT

Sponsored by the National Institute of Standards and Technology, Materials and Construction Research Division

Pre-registered ACI attendees boarding the bus for a tour of the Building and Fire Research Laboratory of National Institute of Standards and Technology (NIST) will depart from the Terrace Level exit of the Hilton Washington at 6:45 AM and will return at 12:00 PM. Please note: The transportation time to NIST is approximately one hour.

✓ International Luncheon              Intl Blrm E
12:00 PM - 2:00 PM
$30 per person

Hosted by the International Committee

Speaker:  Adam Neville  
Principal  
London, England

Title:  100 Years of ACI as Seen by an 80-Year Old Non-American—A Reality Check

Neville will review a century of progress of concrete technology and discuss a course of action needed to enhance the inherent properties of concrete as a choice of construction materials worldwide. A buffet lunch will be served.

_tickets may be purchased at the ACI Registration Desk until 24 hours prior to the event. Please notify the ACI Registration Desk if you have any dietary restrictions._

✓ Separate Fee Required
Mount Vernon and Historic Alexandria
8:00 AM – 2:00 PM
$80 per person
(40 person minimum)

Visit George Washington's home—one of the most revered historical landmarks in the United States. Next, enjoy a driving tour of Old Town Alexandria and view old churches and historic homes. You will then travel to Woodlawn Plantation and the Pope-Leighey House. Lunch is included.

More Than Just a City Tour
1:00 PM – 5:00 PM
$55 per person
(40 person minimum; 70 person maximum)

You will tour famous monuments and historical sites by motorcoach and then you will cruise down the Potomac for a different perspective of the city.

All tours depart from the Terrace Level Exit.
Guest Program—Monday, March 15

Guest Overview
Welcome to Washington, D.C!  
8:00 AM – 9:00 AM
This overview session will acquaint you with the week ahead. Also, 
get a sneak peek at the Fall 2004 guest program in San Francisco, CA, 
and the Spring 2005 guest program in New York.

Spies and Heroes International
Spy Museum and Arlington National Cemetery
10:00 AM – 3:00 PM
$85 per person
(40 person minimum;
80 person maximum)

The International Spy Museum is
Washington, D.C.’s newest and hottest
attraction, and is dedicated to
presenting the international history of espionage. Visits to
Arlington National Cemetery and the Women’s Vietnam Veterans
Memorial will follow. Lunch is provided.

Guest Tea
3:30 PM – 5:00 PM
Join Mrs. Izquierdo-Encarnación to celebrate part of ACI’s history
at the first Centennial Guest Tea.

1919 Grill

Intl Terrace

All tours depart from the Terrace Level Exit.
Hillwood
8:30 AM – 12:00 PM
$56 per person
(40 person minimum; 50 person maximum)

Visit Marjorie Merriweather Post's elaborate 25-acre estate that has undergone a multimillion-dollar renovation after being closed for many years. It contains the most significant collection of Russian decorative arts outside the Russian Federation, as well as 18th century French furniture, tapestries, and art objects. The grounds include a Japanese garden, French garden, Russian "dacha" or cottage, and a collection of American Indian artifacts.

A Star Spangled Adventure
9:00 AM – 4:00 PM
$70 per person
(40 person minimum)

This bus tour of Washington highlights includes the Jefferson Memorial, the Iwo Jima Memorial, the Lincoln Memorial, the Vietnam Veterans Memorial, the Korean Memorial, the Kennedy Center, Embassies of the World, the National Cathedral, the U.S. Capitol, and the Museum of American History. Lunch at Union Station is included.

All tours depart from the Terrace Level Exit.
### Program at a Glance

*All schedule and location changes will be posted daily outside the Exhibit Hall.*

**Friday, March 12**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00PM - 10:00PM</td>
<td>TAC-RG1  TAC Review Group 1 M1</td>
<td>C326</td>
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<tr>
<td></td>
<td>TAC-RG2  TAC Review Group 2 M1</td>
<td>C327</td>
</tr>
<tr>
<td></td>
<td>TAC-RG3  TAC Review Group 3 M1</td>
<td>C328</td>
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<tr>
<td></td>
<td>TAC-RG4  TAC Review Group 4 M1</td>
<td>Grant</td>
</tr>
<tr>
<td>6:00PM - 10:00PM</td>
<td>TAC  Technical Activities M1</td>
<td>Map</td>
</tr>
</tbody>
</table>

**Saturday, March 13**

<table>
<thead>
<tr>
<th>Time</th>
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</tr>
</thead>
<tbody>
<tr>
<td>7:00AM - 6:00PM</td>
<td>TAC  Technical Activities M2</td>
<td>Map</td>
</tr>
<tr>
<td>8:00AM - 5:00PM</td>
<td>EAC  Educational Activities M1</td>
<td>Chevy Chase</td>
</tr>
<tr>
<td>7:30PM - 10:00PM</td>
<td>347-A  Formwork-Specification</td>
<td>Bancroft</td>
</tr>
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</table>

**Sunday, March 14**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>7:00AM - 5:00PM</td>
<td>TAC  Technical Activities M3</td>
<td>Cabinet</td>
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<tr>
<td>8:00AM - 1:00PM</td>
<td>TAC-RG1  TAC Review Group 1 M2</td>
<td>Cabinet</td>
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<td></td>
<td>TAC-RG2  TAC Review Group 2 M2</td>
<td>1101</td>
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<tr>
<td></td>
<td>TAC-RG3  TAC Review Group 3 M2</td>
<td>2101</td>
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<tr>
<td></td>
<td>TAC-RG4  TAC Review Group 4 M2</td>
<td>8101</td>
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<tr>
<td>8:30AM - 10:00AM</td>
<td>IC-Pub  International Publications/Website</td>
<td>C327</td>
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<td>201-C  Durability-Condition Survey Rpt</td>
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<td>232-A  Natural-Pozzolans</td>
<td>Hamilton</td>
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<td></td>
<td>335  Composite-Hybrid</td>
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<td>341-A  Equake Res Brdgs-Columns</td>
<td>Jackson</td>
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<td>8:30AM - 11:30AM</td>
<td>CLC  Construction Liaison</td>
<td>Bancroft</td>
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<td>301-D  Spec-Arctl, LWC, Mass, SCC</td>
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<td>315-B  Detailing-Constructibility</td>
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<td>350-C  Env Str-Reinf &amp; Devel</td>
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<td>369  Seismic Rehab</td>
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<td>408  Bond &amp; Development</td>
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<td>440-H  FRP-Reinforced Concrete</td>
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<td>441  Columns</td>
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<td>546-B  Repair-Material Selection Guide</td>
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**Sunday, March 14-continued**

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<th>Time</th>
<th>Session</th>
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<tr>
<td>8:30AM - 12:30PM</td>
<td>347 Formwork</td>
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<td>301-C Spec-Mixtures, Place, Constr</td>
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<td>355 Anchorage</td>
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<td>IC-Conf International Conferences</td>
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<td>10:00AM - 11:30AM</td>
<td>E701 Materials for Concrete Construction</td>
<td>Chevy Chase</td>
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<td>121-A Quality Assurance-Task Group</td>
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<td>341-C Equake Res Bridg-Retrofit</td>
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<td>342 Bridge Evaluation</td>
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<td>444 Experimental Analysis</td>
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<td>10:00AM - 12:00PM</td>
<td>506-G Shotcreting-Nozzleman Training</td>
<td>Hamilton</td>
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<td>10:00AM - 1:00PM</td>
<td>421 Reinf Slabs</td>
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<td>445-A Shear &amp; Torsn-Strut &amp; Tie</td>
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<td>345 Bridge Construction</td>
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**Session**

11:30AM - 1:00PM

- Session Moderator Orientation Workshop
  Conservatory
### Program at a Glance

All schedule and location changes will be posted daily outside the Exhibit Hall.

**Sunday, March 14-continued**

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<thead>
<tr>
<th>Time</th>
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<td><strong>11:30AM - 3:30PM</strong></td>
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<td>Student Egg Protection Device and FRC Bowling Ball Competitions</td>
<td>Intl Bldm E</td>
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<td><strong>12:00PM - 1:30PM</strong></td>
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<tr>
<td>201-A</td>
<td>Durability - Sulfate Attack</td>
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<td><strong>12:30PM - 2:00PM</strong></td>
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<td>440-E</td>
<td>FRP-Prof Education</td>
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<td>440-L</td>
<td>FRP-Durability</td>
<td>Edison</td>
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<td><strong>1:00PM - 3:00PM</strong></td>
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<td>IC-Mem</td>
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<td>TGCA</td>
<td>Task Group for Centennial Activities</td>
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<td>Pavements-Materials and Tests</td>
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<td>Spec - General Requirements</td>
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<td>315</td>
<td>Detailing</td>
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<td>Footings</td>
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<td>Earthquake-Resistant Bridges</td>
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<td>Bridge Design</td>
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<td>Joints</td>
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<td>Parking Str-Standard</td>
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<td>Dynamic &amp; Vibratory Effects</td>
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<td>Design for Wind Loads</td>
<td>Jackson</td>
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<tr>
<td>440-C</td>
<td>FRP-State of Art</td>
<td>Thoroughbred</td>
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</table>
Sessions
2:00PM - 5:00PM

- Cutting Edge Concrete Research by Federal Agencies
  Lincoln E

- Get Involved in Concrete Education
  Lincoln W

- Design Provisions and Bond Models
  Monroe W

- Concrete Durability: 100-Year History, Part 1
  Jefferson E

- Predicting Service Life—From Theory to Practice
  Jefferson W

3:00PM - 4:30PM

121 Quality Assurance
Hemisphere

3:30PM - 5:00PM

IC International Committee
C329

ITG-5 ITG5 Validation Testing
Hamilton

123 Research
C326

215 Fatigue
C332

224 Cracking
Georgetown W

348 Safety
C328

439-B Steel Reinf-Mechanical Splices
Kalorama

445-C Shear & Torsn-Punching Shear
C327

548-TG Polymers-Task Grp Modified Doc
4101

5:15PM - 6:30PM

Opening Session & Awards Program
Intl Bldr Ctr

6:30PM-7:30 PM

Opening Reception
Exhibit Hall

Session
7:30PM - 10:00PM

Hot Topic Session: Reducing the Cost of Tolerance Incompatibility Issues
Jefferson W

8:00PM - 10:00PM

E801 Student Activities
Hemisphere

* Denotes theme session
### Program at a Glance

All schedule and location changes will be posted daily outside the Exhibit Hall.

**Monday, March 15**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>6:30AM - 8:15AM</td>
<td>Workshop for Technical Committee Chairs</td>
<td>Intl Birm E</td>
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<tr>
<td>7:00AM - 8:30AM</td>
<td>Speaker’s Training Breakfast: Cutting Edge Presentation Technology</td>
<td>Conservatory</td>
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<tr>
<td>8:00AM - 10:00AM</td>
<td>TGSD Task Group on Sustainability</td>
<td>Edison</td>
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<tr>
<td>8:30AM - 10:00AM</td>
<td>E804 Edu Awd Nomination Comm 118 Computers 318 Building Code M1 346 CIP Pipe 371 Water Towers 506-A Shotcreting-Evaluation</td>
<td>8101 2101 Georgetown 1101 C332 Grant</td>
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<tr>
<td>8:30AM - 11:30AM</td>
<td>C610 Field Technician E703 Concrete Construction Practices MKTC Marketing 207 Mass Concrete 209 Creep &amp; Shrinkage 237 Self-Consolidating Concrete 311 Inspection 351-A Equip Fdns-Static Fdns 440-F FRP-Repair-Strengthening 523 Cellular Concrete 524 Plastering 546 Repair 548 Polymers</td>
<td>Bancroft Chevy Chase C326 Hamilton C333 Military Kalorama C328 Cabinet C327 C329 Hemisphere Monroe E</td>
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<td>8:30AM - 12:30PM</td>
<td>364-A Rehabilitation-Evaluation</td>
<td>Farragut</td>
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<td>8:30AM - 1:00PM</td>
<td>302 Floor Construction</td>
<td>Map</td>
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<tr>
<td>8:30AM - 2:00PM</td>
<td>373 Prestressed/Tendons</td>
<td>9101</td>
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</table>
Program at a Glance

All schedule and location changes will be posted daily outside the Exhibit Hall.

Monday, March 15—continued

8:30AM - 3:30PM
307 Chimneys Jackson

8:30AM - 5:00PM
349-C Nuclear Str-Anchorage Caucus

8:30AM - 5:30PM
313 Bins & Silos Independence

8:30AM - 6:30PM
350-D Env Str-Structural C330
350-E Env Str-Precast/Prestressed C331

Sessions
9:00AM - 12:00PM

Research in Progress Lincoln E

Durability Performance of FRP Monroe W
Systems, Part I

Concrete Durability: 100-Year Hemispherel History, Part II

Bond Between Reinforcement and Thoroughbred Matrices Made with High-
Performance Materials

History of Concrete Lincoln W

10:00AM - 11:30AM
E803 Faculty Network Coordinating Grant
122 Energy Conservation C332
318-TG1 Code-TG-Min Torsional Reinf 1101
318-TG2 Code-TG-Notation & Terminology 8101

10:00AM - 12:00PM
506-E Shotcreting-Specifications 4101

10:00AM - 12:30PM
216 Fire Resistance Edison

* Denotes theme session
# Program at a Glance

*All schedule and location changes will be posted daily outside the Exhibit Hall.*

**Monday, March 15-continued**

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<th>Time</th>
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<td>10:00AM - 1:00PM</td>
<td>318-TG3 Code-TG-Slender Columns</td>
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<td>11:30AM - 1:00PM</td>
<td>E802 Teaching Methods &amp; Edu Mats</td>
<td>Cabinet</td>
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<td>201-D Durability-Oversight Committee</td>
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<td>207-A Mass Concrete -RCC in Dams</td>
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<td>447 Finite Element Analysis</td>
<td>Kalorama</td>
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<td>523-A Cellular-Autoclaved Aerated</td>
<td>C327</td>
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<td>544-B FRC-Education</td>
<td>C328</td>
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**Session**

**11:30AM - 1:00PM**

Session Moderator Orientation Workshop

11:30AM - 1:30PM

124 Aesthetics Chevy Chase

**12:00PM - 2:00PM**

12:00PM - 1:00PM

SDC SDC-Strategic Development Council Dupont

Student Lunch Intl Birm E

12:30PM - 2:30PM

440-K FRP-Material Characteristics Edison

1:00PM - 2:30PM

506-C Shotcreting-Guide 4101

1:00PM - 5:00PM

362 Parking Structures C326

**2:00PM - 3:30PM**

INT ADV Internet Advisory Bancroft

225 Hydraulic Cements Farragut

332-TG3 Residential-Education C329

544-E FRC-Mechanical Properties Map

⚠️ Separate fee required
Program at a Glance

All schedule and location changes will be posted daily outside the Exhibit Hall.

Monday, March 15-continued

2:00PM - 4:00PM
365-A Standard Model Development 8101

2:00PM - 5:00PM
212 Chemical Admixtures Hamilton
231 Early-Age 1101
232 Fly Ash & Natural Pozzolans Conservatory
236-A Material Science-Workability 2101
350-G&K Env Str-Tightness Testing & Hazd Mat C332
351 Equip Foundations C328
437 Strength Evaluation Dupont
550 Precast Structures Kalorama

Sessions
2:00PM - 5:00PM

Seismic Assessment and Retrofit Techniques for Concrete Bridges Thoroughbred
Durability Performance of FRP Systems, Part II Monroe W

* Repair of Historic Concrete Structures Hemisphere

* Concrete Aggregates: State of the Art Lincoln E

* Evolution of Concrete Design and Codes Georgetown E

2:00PM - 6:30PM
318-A Code-General Concrete Constr Military
318-E Code-Shear & Torsion Grant
318-F New Mat Products & Ideas Monroe E
318-H Code-Seismic Provisions Chevy Chase
350-B Env Str-Durability C333
360 Slabs on Ground Cabinet

2:30PM - 4:30PM
440-J FRP Stay-in-Place Formwork Georgetown W

2:30PM - 5:00PM
506-F Shotcreting-Underground 4101

* Denotes theme session
### Program at a Glance

*All schedule and location changes will be posted daily outside the Exhibit Hall.*

**Monday, March 15-continued**

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<th>Time</th>
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<td><strong>3:30PM - 5:00PM</strong></td>
<td>Scholarship Council (ConRef) M2 214 440-G 446 544-F</td>
<td>C329</td>
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<td>Strength Tests  FRP-Student Fracture Mechanics FRC-Durability</td>
<td>Bancroft Edison Farragut Map</td>
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<td><strong>3:30PM - 6:30PM</strong></td>
<td>Proportioning-Self Compacting 445-B</td>
<td>C327  Jackson</td>
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<td>Shear &amp; Torsn-Seismic Shear</td>
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<td><strong>4:00PM - 6:00PM</strong></td>
<td>552 Cement Grouting</td>
<td>8101</td>
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<td><strong>5:00PM - 6:00PM</strong></td>
<td>Women in ACI Reception</td>
<td>9101</td>
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<td><strong>5:00PM - 6:30PM</strong></td>
<td>236 Material Science 350-J 435 544-C 555</td>
<td>Farragut C332 Dupont Caucus Conservatory</td>
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<td>Env Str-Education Deflection FRC-Testing Recycled</td>
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<td><strong>6:30PM - 11:00PM</strong></td>
<td>✓ Centennial Dinner</td>
<td>Jefferson</td>
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<tr>
<td><strong>Session</strong></td>
<td>✓ Separate fee required</td>
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<td><strong>7:00PM - 10:00PM</strong></td>
<td>123 Forum: Research for the Future-Who Pays?</td>
<td>Thoroughbred</td>
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**Notes:**
- ✓ Separate fee required
Tuesday, March 16

7:00AM - 8:30AM
TMC TAC Metrication Dupont

7:00AM - 8:30AM
Chapter Forum - Elements of Successful Chapter Seminars Conservatory

7:00AM - 9:00AM
TTTC TAC Technology Transfer Grant

7:00AM - 12:00PM
EAC Educational Activities M2 Chevy Chase

8:00AM - 9:00AM
Contractor’s Day - Continental Breakfast Lincoln W

8:30AM - 10:00AM
C620 Laboratory Tech Cert Bancroft
211-C Proportioning - No Slump C328
213-B Lightweight - By Product Agg 1101
223-B Shr Compensating - Field Meas C330
230 Soil Cement C326
544-A FRC-Production & Applications C332

8:30AM - 10:30AM
440-I FRP - Prestressed Concrete Caucus
440-M FRP - Repair of Masonry Str Cabinet
506 Shotcreting Georgetown W

8:30AM - 11:30AM
CAC Chapter Activities Conservatory
117 Tolerances C329
201 Durability Georgetown E
235 Knowledge-Based Systems C333
306 Cold Weather Edison
325-A Pavements - Design Map
349-A Nuclear Str - Materials Independence
349-B Nuclear Str - Design Jackson
357 Offshore & Marine C331
504-554 Joint Sealants & Bearing Systems Farragut

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# Program at a Glance

All schedule and location changes will be posted daily outside the Exhibit Hall.

**Tuesday, March 16-continued**

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<tr>
<td>Contractor's Day: Mixed Concrete Topics—A Contemporary Collection</td>
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<td>Washington D.C.: A Concrete City</td>
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<td>Innovations in Concrete Bridge Design &amp; Construction—Historic Structures</td>
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<td>Celebrating a Century of Beautiful Concrete, Part I</td>
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<td>Fly Ash for ASR Mitigation—How Critical are the CaO Limits?</td>
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* Denotes theme session
Tuesday, March 16-continued

11:30AM - 1:00PM
Cryogenic Applications-Organizational Mtg       Edison
CRC     Concrete Research Council       Cabinet
IJRC    Int’l Joints & Bearings       Farragut
211-E   Proportioning-Evaluation       C329
213     Lightweight                  C328
325-B   Pavements-Overlays          Map
365     Service Life               Conservatory

11:30AM - 2:00PM
C640    Craftsman           Bancroft

11:30AM - 3:30PM
350-A   Env Str-General & Concrete     Hamilton

12:00PM - 1:00PM
201-B   Durability-Sulfate in Soil   Chevy Chase

12:00PM - 2:00PM
✓ Contractor’s Day Lunch           Intl Blrm E

1:00PM - 4:00PM
340     Design Aids                C331
440     Fiber Reinforced Polymer   Monroe E

2:00PM - 3:30PM
120     History                    Chevy Chase
211-B   Proportioning-Lightweight  Farragut
544-D   FRC-Structural Uses       Conservatory

2:00PM - 5:00PM
CPC     Certification Programs     Bancroft
211-D   Proportioning-High Strength C330
222     Corrosion                   Map
223     Shrinkage-Compensating     Caucus
229     Controlled Low-Strength    C329
233     Ground Slag                Edison
234     Silica Fume                C326
330     Parking Lots & Site Paving Jackson
349     Nuclear Structures        Independence
364     Rehabilitation            Hemisphere
439     Steel Reinforcement      Cabinet

✓ Separate fee required
Tuesday, March 16-continued

2:00PM - 5:00PM
Sessions

★ Contractor’s Day: Productivity, Concrete & Masonry—Technology Applications That Will Increase Your Productivity
   Lincoln W
   Open Paper Session
   Jefferson E

★ Effect of Displacement History on Strength of R/C Members Subjected to Seismic Loading
   Jefferson W

★ Celebrating a Century of Beautiful Concrete, Part II
   Monroe W

★ Concrete: Internationally Speaking
   Lincoln E

2:00PM - 6:30PM
318 Building Code M2
   Georgetown

3:00PM - 5:00PM
CC Convention Committee M2
   Military

3:30PM - 5:00PM
116 Terminology & Notation
   C328
308-C Curing—Accelerated
   Farragut
363-A High Strength—State of Art Report
   Chevy Chase

3:30PM - 5:30PM
445-E Shear & Torsion—SOA Torsion
   Grant

3:30PM - 6:30PM
350-L Env Str—Specification
   Hamilton
544 Fiber Reinforced Concrete
   Thoroughbred

5:00PM - 6:30PM
308-D Curing—HPC
   Farragut
325 Pavements
   Map

7:00PM - 9:00PM
Concrete Mixer—America on the Move
   National Museum of American History, Smithsonian Institute (name badge required)

★ Denotes theme session
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<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tr>
<td>11:30AM-1:00PM</td>
<td>Curing-Guide</td>
<td>Grant</td>
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<td>12:00PM-2:00PM</td>
<td>International Luncheon</td>
<td>Intl Blrm E</td>
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<tr>
<td>12:00PM-6:00PM</td>
<td>ITG-4 ITG4-Seismic Applications</td>
<td>C326</td>
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<tr>
<td>2:00PM-4:00PM</td>
<td>Concrete Res &amp; Educ</td>
<td>Hamilton</td>
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<td>2:00PM-5:00PM</td>
<td>Curing</td>
<td>Grant</td>
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<td>2:00PM-5:00PM</td>
<td>Transport Properties of Concrete</td>
<td>Lincoln W</td>
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<td></td>
<td>Cracks and Their Effect on Rebar Corrosion:The Ultimate Hurdle</td>
<td>Jefferson W</td>
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<td>for Service Life Models?</td>
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<td>Historical Perspective on Experimental Analysis of Concrete Structures</td>
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<td>Sustainability—A New Issue for the Concrete Industry, Part II</td>
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**Thursday, March 18**

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<td>7:45AM-5:00PM</td>
<td>ACI Educational Seminar: Portland Cement Concrete Overlays: State of the Technology</td>
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<td>Military</td>
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★ Denotes theme session  ✔ Separate fee required
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<td>Board of Direction M2</td>
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<td>10:00 AM-5:00 PM</td>
<td>Military</td>
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<tr>
<td>C610</td>
<td>Field Technician</td>
<td>Mon</td>
<td>8:30 AM-11:30 AM</td>
<td>Bancroft</td>
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<tr>
<td>C620</td>
<td>Laboratory Tech Cert</td>
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<td>Construction Inspector</td>
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<td>Repair Application Procedures</td>
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<td>Student Activities</td>
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<td>116 Terminology &amp; Notation</td>
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<td>212 Chemical Admixtures</td>
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<td>2:00 PM-5:00 PM</td>
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<td>213 Lightweight</td>
<td>Tue</td>
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<td>Day(s)</td>
<td>Time</td>
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<td>Lightweight By-Product Agg</td>
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<td>214</td>
<td>Strength Tests</td>
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<td>215</td>
<td>Fatigue</td>
<td>Sun</td>
<td>3:30 PM-5:00 PM</td>
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<td>216</td>
<td>Fire Resistance</td>
<td>Mon</td>
<td>10:00 AM-12:30 PM</td>
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<td>221</td>
<td>Aggregates</td>
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<td>11:30 AM-1:00 PM</td>
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<td>222</td>
<td>Corrosion</td>
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<td>223</td>
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<td>Tue</td>
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<td>223-C</td>
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<td>10:00 AM-11:30 AM</td>
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<td>Cracking</td>
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<td>225</td>
<td>Hydraulic Cements</td>
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<td>Nondestructive Testing</td>
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<td>232</td>
<td>Fly Ash &amp; Natural Pozzolans</td>
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<td>Natural - Pozzolans</td>
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<td>235</td>
<td>Knowledge-Based Systems</td>
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<td>Material Science-Workability</td>
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<td>Specifications</td>
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<td>Spec-Formwork &amp; Rein</td>
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<td>Spec-Artiti, LWC, Mass, SCC</td>
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<td>Measuring/Mix/Trans/Placing</td>
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<td>Hot Weather</td>
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<td>Cold Weather</td>
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<td>307</td>
<td>Chimneys</td>
<td>Mon</td>
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<td>308</td>
<td>Curing</td>
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<td>Bins &amp; Silos</td>
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<td>Code-Shear &amp; Torsion</td>
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<td>318-F</td>
<td>New Mat Products &amp; Ideas</td>
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<td>2:00 PM-6:30 PM</td>
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<td>Parking Lots &amp; Site Paving</td>
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<td>2:00 PM-5:00 PM</td>
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<td>Earthquake-Resistant Bridges</td>
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<td>Env Str-General &amp; Concrete</td>
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<td>Time</td>
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<td>C331</td>
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<td>Slabs on Ground</td>
<td>Mon</td>
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<td>Cabinet</td>
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<td>Parking Structures</td>
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<td>362-A</td>
<td>Parking Str-Standard</td>
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<td>2:00 PM-5:00 PM</td>
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<td>363-A</td>
<td>High Strength-State of Art Report</td>
<td>Tue</td>
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<td>Strength Evaluation</td>
<td>Mon</td>
<td>2:00 PM-5:00 PM</td>
<td>Du Pont</td>
</tr>
<tr>
<td>439</td>
<td>Steel Reinforcement</td>
<td>Tue</td>
<td>2:00 PM-5:00 PM</td>
<td>Cabinet</td>
</tr>
<tr>
<td>439-A</td>
<td>Steel Reinf-Wire</td>
<td>Sun</td>
<td>2:00 PM-3:30 PM</td>
<td>Kalorama</td>
</tr>
<tr>
<td>439-B</td>
<td>Steel Reinf-Mechanical Spices</td>
<td>Sun</td>
<td>3:30 PM-5:00 PM</td>
<td>Kalorama</td>
</tr>
<tr>
<td>440-C</td>
<td>Fiber Reinforced Polymer</td>
<td>Tue</td>
<td>1:00 PM-4:00 PM</td>
<td>Monroe E</td>
</tr>
<tr>
<td>440-D</td>
<td>FRP-State of Art</td>
<td>Sun</td>
<td>2:00 PM-5:00 PM</td>
<td>Thoroughbred</td>
</tr>
<tr>
<td>440-E</td>
<td>FRP-Research</td>
<td>Tue</td>
<td>10:30 AM-12:00 PM</td>
<td>Caucus</td>
</tr>
<tr>
<td>440-F</td>
<td>FRP-Prof Education</td>
<td>Sun</td>
<td>12:30 PM-2:00 PM</td>
<td>Thoroughbred</td>
</tr>
<tr>
<td>440-G</td>
<td>FRP-Student</td>
<td>Mon</td>
<td>3:30 PM-5:00 PM</td>
<td>Edison</td>
</tr>
<tr>
<td>440-H</td>
<td>FRP-Reinforced Concrete</td>
<td>Sun</td>
<td>8:30 AM-11:30 AM</td>
<td>Georgetown W</td>
</tr>
<tr>
<td>440-I</td>
<td>FRP- Prestressed Concrete</td>
<td>Tue</td>
<td>8:30 AM-10:30 AM</td>
<td>Caucus</td>
</tr>
<tr>
<td>440-J</td>
<td>FRP-Stay-in-Place Formwork</td>
<td>Mon</td>
<td>2:30 PM-4:30 PM</td>
<td>Georgetown W</td>
</tr>
<tr>
<td>440-K</td>
<td>FRP-Material Characteristics</td>
<td>Mon</td>
<td>12:30 PM-2:30 PM</td>
<td>Edison</td>
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<tr>
<td>440-L</td>
<td>FRP-Durability</td>
<td>Sun</td>
<td>12:30 PM-2:00 PM</td>
<td>Edison</td>
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<tr>
<td>440-M</td>
<td>FRP-Repair of Masonry Str Columns</td>
<td>Tue</td>
<td>8:30 AM-10:30 AM</td>
<td>Cabinet</td>
</tr>
<tr>
<td>441</td>
<td></td>
<td>Sun</td>
<td>8:30 AM-11:30 AM</td>
<td>Map</td>
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<tr>
<td>444</td>
<td>Experimental Analysis</td>
<td>Sun</td>
<td>10:00 AM-11:30 AM</td>
<td>C327</td>
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<td>Code</td>
<td>Name</td>
<td>Day</td>
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<td>Location</td>
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<tr>
<td>445</td>
<td>Shear &amp; Torsion</td>
<td>Wed</td>
<td>8:30 AM-11:30 AM</td>
<td>Cabinet</td>
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<tr>
<td>445-A</td>
<td>Shear &amp; Torsn-Strut &amp; Tie</td>
<td>Sun</td>
<td>10:00 AM-1:00 PM</td>
<td>Jackson</td>
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<tr>
<td>445-B</td>
<td>Shear &amp; Torsn-Seismic Shear</td>
<td>Mon</td>
<td>3:30 PM-6:30 PM</td>
<td>Jackson</td>
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<tr>
<td>445-C</td>
<td>Shear &amp; Torsn-Punching Shear</td>
<td>Mon</td>
<td>3:00 PM-5:00 PM</td>
<td>C327</td>
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<tr>
<td>445-E</td>
<td>Shear &amp; Torsn-SOA Torsion</td>
<td>Tue</td>
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<td>446</td>
<td>Fracture Mechanics</td>
<td>Mon</td>
<td>3:30 PM-5:00 PM</td>
<td>Farragut</td>
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<td>447</td>
<td>Finite Element Analysis</td>
<td>Mon</td>
<td>11:30 AM-1:00 PM</td>
<td>Kalamazoo</td>
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<td>503</td>
<td>Adhesives</td>
<td>Tue</td>
<td>10:00 AM-11:30 AM</td>
<td>Hamilton</td>
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<tr>
<td>504-554</td>
<td>Joint Sealants &amp; Bearing Sys</td>
<td>Tue</td>
<td>8:30 AM-11:30 AM</td>
<td>Farragut</td>
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<tr>
<td>506</td>
<td>Shotcreting</td>
<td>Tue</td>
<td>8:30 AM-10:30 AM</td>
<td>Georgetown W</td>
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<tr>
<td>506-A</td>
<td>Shotcreting-Evaluation</td>
<td>Mon</td>
<td>8:30 AM-10:00 AM</td>
<td>Grant</td>
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<tr>
<td>506-B</td>
<td>Shotcreting-Fiber Reinforced</td>
<td>Sun</td>
<td>1:30 PM-3:30 PM</td>
<td>Hamilton</td>
</tr>
<tr>
<td>506-C</td>
<td>Shotcreting-Guide</td>
<td>Mon</td>
<td>1:00 PM-2:30 PM</td>
<td>4101</td>
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<tr>
<td>506-D</td>
<td>Shotcreting-Swimming Pools</td>
<td>Sun</td>
<td>2:00 PM-3:30 PM</td>
<td>C332</td>
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<tr>
<td>506-E</td>
<td>Shotcreting-Specifications</td>
<td>Mon</td>
<td>10:00 AM-12:00 PM</td>
<td>4101</td>
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<tr>
<td>506-F</td>
<td>Shotcreting-Underground</td>
<td>Mon</td>
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<td>4101</td>
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<td>506-G</td>
<td>Shotcreting-Nozzlem Training</td>
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<td>515</td>
<td>Protective Systems</td>
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<td>522</td>
<td>Pervious Concrete</td>
<td>Tue</td>
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<td>Dupont</td>
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<td>523</td>
<td>Cellular Concrete</td>
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<td>Cellular-Autoclaved Aerated</td>
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<td>Mon</td>
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<td>533</td>
<td>Precast Panels</td>
<td>Sun</td>
<td>8:30 AM-11:30 AM</td>
<td>Conservatory</td>
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<td>543</td>
<td>Piles</td>
<td>Wed</td>
<td>8:30 AM-11:00 PM</td>
<td>Independence</td>
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<td>544</td>
<td>Fiber Reinforced Concrete</td>
<td>Tue</td>
<td>3:30 PM-6:30 PM</td>
<td>Thoroughbred</td>
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<tr>
<td>544-A</td>
<td>FRC-Production &amp; Applications</td>
<td>Tue</td>
<td>8:30 AM-10:00 AM</td>
<td>C332</td>
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<tr>
<td>544-B</td>
<td>FRC-Education</td>
<td>Mon</td>
<td>11:30 AM-1:00 PM</td>
<td>C328</td>
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<td>544-C</td>
<td>FRC-Testing</td>
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<td>544-D</td>
<td>FRC-Structural Uses</td>
<td>Tue</td>
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<td>544-E</td>
<td>FRC-Mechanical Properties</td>
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<td>Map</td>
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<tr>
<td>544-F</td>
<td>FRC-Durability</td>
<td>Mon</td>
<td>3:30 PM-5:00 PM</td>
<td>Map</td>
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<td>546</td>
<td>Repair</td>
<td>Mon</td>
<td>8:30 AM-11:30 AM</td>
<td>Hemisphere</td>
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<td>546-A</td>
<td>Repair-Underwater</td>
<td>Sun</td>
<td>11:30 AM-1:00 PM</td>
<td>Military</td>
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<td>546-B</td>
<td>Repair-Material Selection Guide</td>
<td>Sun</td>
<td>8:30 AM-11:30 AM</td>
<td>Monroe E.</td>
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<td>546-C</td>
<td>Repair-Guide</td>
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<td>10:00 AM-1:00 PM</td>
<td>Hemisphere</td>
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<td>548</td>
<td>Polymers</td>
<td>Mon</td>
<td>8:30 AM-11:30 AM</td>
<td>Monroe E.</td>
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<td>548-A</td>
<td>Polymers-Overlays</td>
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<td>Polymers-Sulfur Concrete</td>
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<td>548-C</td>
<td>Polymers-Str Design &amp; Analysis</td>
<td>Sun</td>
<td>2:00 PM-3:30 PM</td>
<td>4101</td>
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<td>548-TG</td>
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<td>Thin Reinforced Cementitious</td>
<td>Sun</td>
<td>11:30 AM-1:00 PM</td>
<td>Map</td>
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<td>550</td>
<td>Precast Structures</td>
<td>Mon</td>
<td>2:00 PM-5:00 PM</td>
<td>Kalamazoo</td>
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<tr>
<td>552</td>
<td>Cement Grouting</td>
<td>Mon</td>
<td>4:00 PM-6:00 PM</td>
<td>8101</td>
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<tr>
<td>555</td>
<td>Recycled</td>
<td>Mon</td>
<td>5:00 PM-6:30 PM</td>
<td>Conservatory</td>
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<tr>
<td>556</td>
<td>Cryogenic Applications - Organizational Mtg</td>
<td>Tue</td>
<td>11:30 AM-1:00 PM</td>
<td>Edison</td>
</tr>
<tr>
<td>671</td>
<td>Insulated Concrete Forms-Formational Mtg</td>
<td>Wed</td>
<td>8:30 AM-10:00 AM</td>
<td>Edison</td>
</tr>
</tbody>
</table>
Session Moderator
Orientation Workshop

Sponsored by Committee E 903

Session Co-Moderators:  
David G. Kittridge  
Consultant  
Maitland, FL

Richard P. Bohan  
Director of Education  
Department of Education and Training  
Portland Cement Association  
Skokie, IL

Charles S. Hanskat  
Manager  
Business Development  
DN Thermal Energy Systems  
El Cajon, CA

All moderators of technical and educational sessions are required by TAC and EAC policy to attend one of these training workshops before their scheduled session. Ensuring that all ACI session moderators understand the duties and responsibilities of moderating a session is one of the goals of this session, as well as ensuring that they are aware of the resources available and planning timetables. Approval to sponsor a technical session at an ACI convention is contingent on prior attendance at a session moderator orientation workshop.

This session is also offered on Monday, March 15, 2004, from 11:30 AM to 1:00 PM.
Student Egg Protection Device  
& FRC Bowling Ball Competitions

Sponsored by Committee E801 and the 
ACI National Capital Chapter

Program Coordinators: 
Abeldjelil Belarbi
Associate Professor
Department of Civil Engineering
University of Missouri-Rolla
Rolla, MO

Carol D. Hays
President
Engineering Analytics, Inc.
Miami, FL

Tom Ouska
Business Development
Structural Group
Elkeridge, MD

John Myers
Assistant Professor
Department of Civil Engineering
University of Missouri-Rolla
Rolla, MO

**Introduction**  
11:15 AM

*Abeldjelil Belarbi, Associate Professor, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO*

**Student Egg Protection Device**  
11:30 AM

The objective of the Egg Protection Device (EPD) competition is to design and build the highest impact load-resistant plain or reinforced concrete Egg Protection Device (EPD).

**Student FRC Bowling Ball**  
11:30 AM

The FRC Bowling Ball competition goal is to design and construct a fiber-reinforced concrete bowling ball to achieve optimal performance under specified failure criteria and to develop a fabrication process that produces a radial uniform density while maximizing volume.

Competitions will occur simultaneously.
Sunday, March 14
2:00 PM - 5:00 PM

★ Cutting Edge Concrete Research by Federal Agencies

Sponsored by the ACI National Capital Chapter

Session Moderator: Nicholas J. Carino
Research Structural Engineer
National Institute of Standards and Technology
Gaithersburg, MD

The Virtual Cement and Concrete Testing Laboratory: Overview and Case Studies
2:00 PM
Jeffrey W. Bullard, Materials Research Engineer, Materials and Constructions Research Division, National Institute of Standards and Technology, Gaithersburg, MD; and Edward J. Garboczi, Chiara F. Ferraris, and Nicos Marty, National Institute of Standards and Technology

Overview of U.S. Army Corps of Engineers Concrete Research
2:30 PM

Computer-Based Guidelines for Job-Specific Optimization of Paving Concrete
3:00 PM
Mauricio Ruiz, Project Manager, The Transtec Group, Austin, TX and Robert Rasmussen, The Transtec Group; and Marcia Simon, Federal Highway Administration

Automating Pick-and-Place Operations at Construction Sites: Technology Issues and Implications for Precast Construction
3:30 PM
Alan M. Lytle, Robotics Engineer, Materials and Construction Research Division, National Institute of Standards and Technology, Gaithersburg, MD; and Kamel S. Saidi, William C. Stone, and Nicholas A. Scott, National Institute of Standards and Technology

★ Denotes theme session
Cutting Edge Concrete Research by Federal Agencies—continued

Research Strategies for the Bureau of Reclamation Aging Concrete Infrastructure
Timothy P. Dolen, Materials Engineering and Research Laboratory, U.S. Bureau of Reclamation, Denver, CO; and David W. Harris, William F. Kepler, and Kurt vonFay, U.S. Bureau of Reclamation

The Promise of NEES: Application of the George E. Brown, Jr. Network for Earthquake Engineering Simulation in Collaborative Research
Steven L. McCabe, Program Director, Structural Systems and Hazards Mitigation, Division of Civil and Mechanical Systems, National Science Foundation, Arlington, VA; and Joy M. Pauschke and George E. Brown, Jr., National Science Foundation
Get Involved in Concrete Education

Sponsored by the Educational Activities Committee

Session Co-Moderators: Julie R. Luther
Senior Vice President of Government & Industry Relations
National Ready Mixed Concrete Association
Silver Spring, MD

Paul J. Tikalsky
Associate Professor
Transportation Research Center
Pennsylvania State University
University Park, PA

Introduction  2:00 PM
Julie R. Luther, Senior Vice President of Government & Industry Relations, National Ready Mixed Concrete Association, Silver Spring, MD

Concrete Importance in Education: Point, Counter-Point!  2:05 PM
Gajanan M. Sabnis, Professor & Consultant, Department of Civil Engineering, Howard University, Silver Spring, MD; and J. P. Mohsen, University of Louisville

Overview of Concrete in Education: Industry Perspective  2:35 PM
Julie R. Luther, Senior Vice President of Government & Industry Relations, National Ready Mixed Concrete Association, Silver Spring, MD

The Role of ACI Certifications in Concrete Education  3:00 PM
John J. Schemmel, Head, Department of Civil and Environmental Engineering, South Dakota State University, Brookings, SD

Experience with Concrete Industry Management Program  3:30 PM
Heather T. Brown, Concrete Industry Management Program, Middle Tennessee State University, Murfreesboro, TN
Sunday, March 14
2:00 PM - 5:00 PM

Get Involved in Concrete Education—continued

The Promising Concrete in a Two-Year Civil Engineering Technology Program
Robert L. Eller, Professor, Concrete Technology Program, Alpena Community College, Alpena, MI

Concrete in Education—ACI and PCA Perspectives
Richard P. Bohan, Director of Education, Department of Education and Training, Portland Cement Association, Skokie, IL

4:00 PM

4:30 PM
Design Provisions and Bond Models

Monroe W

Sponsored by Committee 408

Session Co-Moderators:  
Adolfo B. Matamoros  
Assistant Professor  
Department of Civil, Environmental,  
and Architectural Engineering  
University of Kansas  
Lawrence, KS

Douglas Cleary  
Associate Professor  
Department of Civil and  
Environmental Engineering  
Rowan University  
Glassboro, NJ

Discrete Bond Element for 3D Finite Element Analysis of Reinforced Concrete Structures  
2:00 PM

Rolf Elighausen, Professor, Institute of Construction Materials, University of Stuttgart, Stuttgart, Germany; and J. Ozbolt and Steffen Lettow, University of Stuttgart

Towards an Improved Understanding of Bond Behavior  
2:30 PM

Erdem Canbay, Instructor, Middle East Technical University, Ankara, Turkey; and Robert J. Frosch, Purdue University

ACI Committee 408 Design Recommendations for Development and Splice Lengths  
3:00 PM

David Darwin, Ackers Distinguished Professor, Department of Civil Engineering, University of Kansas, Lawrence, KS

Rotating Bearing Angle Theory for Bond Mechanism of Ribbed Reinforcing Bars to Concrete  
3:30 PM

Oan Chul Choi, Professor, Department of Architectural Engineering, Soong Sil University, Seoul Korea

Effect of Strand Diameter on Bond, Transfer, and Development Length Performance of Prestressing Strands  
4:00 PM

Gabriel D. Alcaraz, Assistant Executive Director, Puerto Rico Highway and Transportation Authority, San Juan, Puerto Rico; Fernando E. Fagundo and Idelfonso Burgos, Puerto Rico Highway and Transportation Authority; and Ronald A. Cook, University of Florida
Sunday, March 14
2:00 PM - 5:00 PM

★ Concrete Durability: Jefferson E
100-Year History, Part I

Sponsored by Committee 201

Session Co-Moderators: Mohammad S. Khan
Vice President
Professional Service Industries, Inc.
Fairfax, VA

Stephen W. Forster
Technical Director
Federal Highway Administration
McLean, VA

Introduction
Mohammad S. Khan, Vice President, Professional Service Industries, Inc., Fairfax, VA

2:00 PM

Durability: What Has Changed in the
Last 100 Years
Joseph F. Lamond, Consulting Engineer, Jeffersonton, VA

2:05 PM

History of Development of Knowledge on
Concrete Durability
R. Doug Hooton, Professor, Department of Civil Engineering,
University of Toronto, Toronto, ON, Canada; and James S. Pierce, U.S.
Bureau of Reclamation

2:30 PM

A New Approach by Which Cyclic Freezing Can
Damage Concrete—The Erlin/Mather Effect A Concept
Bernard Erlin, President, The Erlin Company, Latrobe, PA

3:00 PM

History of Air Entrainment in Concrete—The Past
and the Future
Mohammed A. Nagi, Project Manager, Construction Technology
Laboratories, Inc., Skokie, IL

3:30 PM

Durability—The Forgotten and Neglected Factors
James M. Shilstone, Sr., President, The Shilstone Companies, Inc.,
Dallas, TX

4:00 PM

Alkali-Silica Reaction—A Historical Perspective
Michael Thomas, Professor, Department of Civil Engineering,
University of New Brunswick, Fredericton, NB, Canada

4:30 PM

★ Denotes theme session
Predicting Service Life—From Theory to Practice

Sponsored by Committee 365

Session Co-Moderators:
- David A. Trejo
  Assistant Professor
  Department of Civil Engineering
  Texas A&M University
  College Station, TX
- Michael Thomas
  Professor
  Department of Civil Engineering
  University of New Brunswick
  Fredericton, NB, Canada

Introduction 2:00 PM
David A. Trejo, Assistant Professor, Department of Civil Engineering, Texas A&M University, College Station, TX

Service Life Prediction: Environment, Design & Construction Considerations 2:05 PM
Michael Thomas, Professor, Department of Civil Engineering, University of New Brunswick, Fredericton, NB, Canada

Effect of Code Conditions on Service Life 2:35 PM
Jennifer Tanner, Assistant Professor, Department of Civil & Architectural Engineering, University of Wyoming, Laramie, WY

Commercial Methods to Predict Service Life 3:05 PM
Evan J. Bentz, Assistant Professor, Department of Civil Engineering, University of Toronto, Toronto, ON, Canada; and Paul G. Tourney, Materials Service Life, LLC

Using Service Life to Predict Economy of Structures 3:35 PM
David A. Trejo, Assistant Professor, Department of Civil Engineering, Texas A&M University, College Station, TX

On-Going Work and Needed Developments in Service Life Modeling 4:05 PM
Paul G. Tourney, Vice President, Materials Service Life, LLC, Kalamazoo, MI

Open Discussion on Service Life 4:35 PM

★ Denotes theme session
Sunday, March 14
5:15 PM - 6:30 PM

Opening Session & Awards Program

Intl Blrm Ctr

Sponsored by ACI

Celebrate the opening of the first Centennial Convention by attending this very special event. Witness the induction of 36 new Fellows, five Honorary Members, and honor over 25 other individuals and chapters for their contributions to ACI and the concrete community. All convention attendees are invited to attend this event.

Henry L. Kennedy—1953 Fall Convention
Sunday, March 14
6:30 PM-7:30 PM

Opening Reception
Welcome to Washington D.C.

Exhibit Hall

Sponsored by the ACI National Capital Chapter

Start your convention week by visiting the exhibit area, meeting other attendees, and interacting with top industry professionals. A cash bar and light snacks will be available during this networking hour. Following the reception, head out to dinner at one of Washington, D.C.'s fine restaurants. See the hotel concierge for dinner recommendations and reservations. **Note:** Beverages for this event must be paid for with cash and cannot be charged to your room.
Sunday, March 14
7:30 PM - 10:00 PM

Hot Topic Session—Jefferson W
Reducing the Cost of Tolerance
Incompatibility Issues

Sponsored by the Hot Topic Committee

Session Moderator: John C. Hukey
Technical Services
Dayton Superior
Kansas City, KS

Introduction 7:30 PM
John C. Hukey, Technical Services, Dayton Superior, Kansas City, KS

Representing the Cast-in-Place Industry 7:35 PM
Bruce Suprenant, Executive Vice President, Structural Services, Inc., Boulder, CO

Representing the Structural Steel Industry 8:05 PM
Charles Carter, America Institute of Steel Construction (AISC), Chicago, IL

Representing the Partition and Curtain Wall Industry 8:35 PM
Larry Livermore, Installation Program Manager, American Architectural Manufacturers Association (AAMA), Schaumburg, IL

Representing the Precast/Prestressed Industry 9:05 PM
Tom D'Arcy, President, Consulting Engineers Group (CEG), San Antonio, TX

Questions and Answers 9:35 PM
Workshop for Technical Committee Chairs

Hosted by the Technical Activities Committee

Session Moderator: David H. Sanders
Associate Professor
Department of Civil Engineering
University of Nevada
Reno, NV

Current and incoming technical committee Chairs are invited to attend this breakfast workshop for an opportunity to meet with fellow Chairs, TAC members, and staff. Seating is arranged so that Chairs sit at the same table as their TAC contact. There will be table discussions and short presentations on recent developments of interest to ACI Chairs. New features and feedback on the ACI website and web balloting will be discussed, as well as how to handle problems with committee ballots and resolving negatives. Bloem Award recipients will present issues critical to the success of their committees.

All technical committee chairs are expected to be represented at this Workshop. If you are unable to attend, please ask the secretary or another committee member to represent the committee. The full breakfast begins at 6:20 AM, and the Workshop finishes at 8:15 AM. By invitation only.
Monday, March 15
7:00 AM - 8:30 AM
Speaker's Training
Breakfast: Cutting Edge
Presentation Technology

Sponsored by Committee E 903

Session Moderator: Richard P. Bohan
Director of Education
Department of Education
and Training
Portland Cement Association
Skokie, IL

Cutting Edge Presentation Technology 7:00 AM
Richard P. Bohan, Director of Education, Department of Education
and Training, Portland Cement Association, Skokie, IL

It's a brave new world out there so don't let it pass you by. Attend
this skill-training breakfast to equip yourself with the latest in
presentation technology to help get your point across. A continen-
tal breakfast will be served.
Research in Progress

Sponsored by Committee 123

Session Co-Moderators:
Kolluru V. Subramaniam
Assistant Professor
Department of Civil Engineering
City College of New York
New York, NY

Michelle Nokken
Doctoral Candidate
Department of Civil Engineering
University of Toronto
Toronto, ON, Canada

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Introduction

Kolluru V. Subramaniam, Assistant Professor, Department of Civil Engineering, City College of New York, New York, NY

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Lamb Wave Basis for Impact-Echo Method Analysis

Alexander Gibson, Doctoral Candidate, Civil Engineering, University of Illinois at Urbana-Champaign; Urbana, IL
Award will be presented by Michael Hoag, James Instruments and Allen G. Davis, Senior Principal Engineer, Construction Technology Laboratories, Inc.

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Durability, Permeability, and Strength of Concrete Mixtures Containing Ground Granulated Blast Furnace Slag and Fly Ash

Natalie Peterson, Graduate Assistant, Department of Civil Engineering, University of Arkansas, Fayetteville, AR; and W. Micah Hale, University of Arkansas

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Creep and Shrinkage in High Performance/High Strength Concrete

Nakin Suksawang, Graduate Student, Department of Civil and Environmental Engineering, Rutgers, The State University of New Jersey, Piscataway, NJ; and Hani H. Nassif; The State University of New Jersey

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Effect of Shrinkage-Reducing Admixtures on the Losses of Prestressing Force

Salah Altoubat, Assistant Professor, University of Sharjah, UAE; Samer Barakat, University of Sharjah; and Akthem Almanaseer, San Jose State University
Research in Progress—continued

Sequestering Co, Through Early Age 10:00 AM
Curing of Concrete
Yixin Shao, Assistant Professor, Department of Civil Engineering,
McGill University, Montreal, QC, Canada; and Caijun Shi, CJS
Technology, Inc.

Effect of Atmospheric Conditions 10:15 AM
on Development of Thermal Stresses
in Curing Concrete Bridge Slabs
Gary S. Wojcik, Research Assistant, National Institute of Standards
and Technology, Gaithersburg, MD; and Erik Schlangen, Intron

Bonded Overlays—Summary of 10:30 AM
a RILEM TC
J. Silfwerbrand, Swedish Cement and Concrete Research Institute
(CBI), Stockholm, Sweden; and Jean-Louis Granju, Laboratoire
Materiaux et Durabilite des Constructions (LMDC)

Evaluating Historic Concrete Bridges 10:45 AM
with Plain Reinforcement
Lisa R. Feldman, Graduate Student, Department of Civil &
Environmental Engineering, University of Western Ontario, London,
ON, Canada; and F. Michael Bartlett, University of Western Ontario

Numerical Modeling of Reinforced Concrete 11:00 AM
Beams Strengthened with FRP Laminates
Carlos Coronado, Graduate Student, Department of Civil and
Environmental Engineering, Pennsylvania State University,
University Park, PA; and Maria M. Lopez de Murphy, Pennsylvania
State University

Fatigue Response of Hybrid FRP–Concrete 11:15 AM
Bridge Girders
Iftekhar Ahmad, Doctoral Candidate, Department of Civil, Construction
and Environmental Engineering, North Carolina State University,
Raleigh, NC; and Amir Mirmiran, North Carolina State University

Enhancing Impact and Blast Resistance of 11:30 AM
Concrete Structures using Externally Bonded
FRP Reinforcement
Nemkumar Banthia, Professor, Department of Civil Engineering,
University of British Columbia, Vancouver, BC, Canada; and M.
Soleiman, University of British Columbia

Influence of Different Confinement Patterns 11:45 AM
on Behavior of Reinforced Concrete Beams
Riyadh Hindi, Assistant Professor, Department of Civil Engineering
and Construction, Bradley University, Peoria, IL; and Amir Elsherief
and Mohamad Al-Qattawi, Bradley University
Durability Performance of FRP Systems, Part I

Monroe W

Sponsored by Committee 440

Session Co-Moderators: John J. Myers
Assistant Professor
Department of Civil Engineering
University of Missouri-Rolla
Rolla, MO

H.R. Hamilton
Associate Professor
Department of Civil Engineering
University of Florida
Gainesville, FL

Behavior of FRP-Strengthened Members Exposed to Fire Conditions
9:00 AM
Mark F. Green, Associate Professor, Queen's University at Kingston, Kingston, ON, Canada; and Brea K. Williams, Luke A. Bisby, and Venkatesh K.R. Kodur, National Research Council of Canada Fire Laboratory

Durability of GFRP-Concrete Bonded Interfaces
9:30 AM
Junhui Jia, Department of Architectural Engineering, Pennsylvania State University, University Park, PA; and Thomas E. Boothby, Charles E. Bakis, and Tennisha L. Brown, Pennsylvania State University

Hygrothermal Effects of Deionized Water and Alkaline Solutions on Durability of E-Glass/Vinylester Composites
10:00 AM
Vistaspat M. Karbhari, Professor, Department of Structural Engineering, University of California, San Diego, CA; and Wellington Chu and Celine Hebling, University of California

Durability, Accelerated Aging, and Lifetime Prediction of FRP Systems Used in the Civil Infrastructure
10:30 AM
John Lesko, Department of Engineering, Science and Mechanics, Virginia Polytechnic Institute and State University, Blacksburg, VA; and Theophanus Theophanous, Stephen Phifer, John Bausano, Carin Roberts-Wollmann and Scott Case, Virginia Polytechnic Institute and State University
Durability Performance of FRP Systems, Part I-continued

**Durability of CFRP Strengthening Systems**  11:00 AM  
Used to Repair Corrosion Damage in Reinforced Concrete  
*H.R. Hamilton*, Associate Professor, Department of Civil Engineering, University of Florida, Gainesville, FL; and *Markus Kutarba* and *Jeff R. Brown*, University of Florida

**Durability of Glass FRP Composite Bars for Concrete Structure Reinforcement Under Sustained Load in Wet and Alkaline Environment**  11:30 AM  
*Brahim Benmokrane*, NSERC Chair Professor, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, QC, Canada; and *Gilbert Nkurunziza* and *Patrice Cousin*, University of Sherbrooke
Concrete Durability: Hemisphere
100-Year History, Part II

Sponsored by Committee 201

Session Co-Moderators: Mohammad S. Khan
Vice President
Professional Service Industries, Inc.
Fairfax, VA

R. Doug Hooton
Professor
Department of Civil Engineering
University of Toronto
Toronto, ON, Canada

Introduction
Mohammad S. Khan, Vice President, Professional Service Industries, Inc., Fairfax, VA

Evolution of Durability in Concrete Pavements
Stephen W. Forster, Technical Director, Federal Highway Administration, McLean, VA

PCC Pavement Durability Studies
Kurt D. Smith, Principal Engineer, Applied Pavement Technology, Inc., Champaign, IL

Efforts to Improve Durability of Transportation Facilities in Virginia
Celik Ozyildirim, Principal Research Scientist, Virginia Transportation Research Council, Charlottesville, VA

Development of Specifications for Sulfate Resistance
Eugene D. Hill, Associate, Openaka Corporation, Denver, CO; and R. Doug Hooton, Professor, University of Toronto

Chesapeake Bay Bridge Tunnel Piles—40 Years of Performance
Mohammad S. Khan, Vice President, Professional Service Industries, Inc., Fairfax, VA

Improving Concrete Performance Using Slag Cement
R. Doug Hooton, Professor, Department of Civil Engineering, University of Toronto, Toronto, ON, Canada; and Jan Prusinski, Slag Cement Association

Denotes theme session
Monday, March 15
9:00 AM - 12:00 PM

Bond Between Thoroughbred Reinforcement and Matrices Made with High-Performance Materials

Sponsored by Committee 408

Session Moderator: Adolfo B. Matamoros
Assistant Professor
Department of Civil, Architectural, and Environmental Engineering
University of Kansas
Lawrence, KS

Introduction 9:00 AM
Adolfo B. Matamoros, Assistant Professor, Department of Civil, Architectural and Environmental Engineering, University of Kansas, Lawrence, KS

Glass Concrete Thin Sheets Prestressed with Unprotected Aramid Rovings 9:05 AM
Gregor Vilkner, Department of Civil Engineering, Columbia University, New York, NY; and Christian Meyer, Columbia University

Characteristics of Engineered Cementitious Composites (ECC) and Their Interactions with Structural Reinforcement 9:35 AM
Gregor Fischer, Assistant Professor, Department of Civil and Environmental Engineering, University of Hawaii, Honolulu, HI

Development Length of Microcomposite Reinforcing Bars Used in Bridge Deck Applications 10:35 AM
Sergio F. Breña, Assistant Professor, Department of Civil and Environmental Engineering, University of Massachusetts, Amherst, MA; and Sean W. Peterfreund, University of Michigan

Bond of GFRP Bars 11:05 AM
Carol K. Shield, Associate Professor, Department of Civil Engineering, University of Minnesota, Minneapolis, MN; and Brad Wambeker, U.S. Military Academy

Bond Failure Between CFRP Rebars and High-Strength FRC 11:35 AM
Amnon Katz, National Building Research Institute, Faculty of Civil and Environmental Engineering, Technion-Israel Institute of Technology, Haifa, Israel; and Jacob Aronof and Yeoshua Frosting, Technion-Israel Institute of Technology
History of Concrete  
Lincoln W

Sponsored by Committee 120

Session Moderator: Luke M. Snell  
Professor of Construction  
Director, Resource Unit  
Southern Illinois  
University at Edwardsville  
Edwardsville, IL

Introduction  
9:00 AM
Luke M. Snell, Professor of Construction and Director, Resource Unit, Southern Illinois University at Edwardsville, Edwardsville, IL

History of Concrete in Mongolia  
9:02 AM
Billie Snell, Educational Research Consultant, Concrete Construction Resource Unit, Southern Illinois University at Edwardsville, Edwardsville, IL, and Luke M. Snell, Southern Illinois University at Edwardsville; Barbara Hansen, Black Hills State University; and Yagaanbuyant Duinkherjav and R. Khishgee, Mongolian University of Science and Technology

A Time to Build Up, A Time to Break Down  
9:20 AM
Barnes Wallis vs Nazi Infrastructure
Andrew Budek, Assistant Professor of Civil Engineering, Texas Technological University, Lubbock, TX

Oil Tycoon and Railroad Baron Build Florida  
9:40 AM
Dreams Out of Portland Cement Concrete in 1885
Joseph A. Amon, Vice President and Managing Principal, Ardaman & Associates, Inc., Tampa, FL; and Debby Amon, Ardaman & Associates, Inc.

Historical Development of Cement and Concrete in India  
10:00 AM
Vijay R. Kulkarni, Editor, The Indian Concrete Journal, The Associated Cement Cos., Ltd., Thane, India; and S.A. Reddi, Gammon India, Ltd., and Gajanan M. Sabnis, Howard University

☆ Denotes theme session
Monday, March 15
9:00 AM - 12:00 PM

* History of Concrete-continued

**Thin Concrete Shells and Structural Innovation:** 10:20 AM
*The Early Work of Anton Tedesko*
*Eric Hines*, Structural Engineer, LeMessurier Consultants, Cambridge, MA; and *David P. Billington*, Princeton University

**Caesar Rodney Monument Pedestal Repair** 10:40 AM
*M. Johannes Paul*, Senior Vice President, LZA Technology, Philadelphia, PA

**Crescent City Ready Mix–Batching, Mixing and Transporting** 11:00 AM
*Mark A. Cheek*, Vice President, Beta Testing & Inspection, Gretna, LA

**Evolution of Tilt-Up Concrete** 11:20 AM
*Kimberly W. Kramer*, Assistant Professor of Architectural Engineering and Construction Science and Management, Kansas State University, Manhattan, KS

**Historical Concrete–Still in Good Shape** 11:40 AM
*Norway’s First Concrete Construction*
*Per Jahren*, Consultant, PJ Consult A/S, Hvalstad, Norway

* Denotes theme session

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Session Moderator Orientation Workshop

Sponsored by Committee E903

Session Co-Moderators:  
- David G. Kittridge  
  Consultant  
  Maitland, FL

- Richard P. Bohan  
  Director of Education  
  Department of Education and Training  
  Portland Cement Association  
  Skokie, IL

- Charles S. Hanskat  
  Manager  
  Business Development  
  DN Thermal Energy Systems  
  El Cajon, CA

All moderators of technical and educational sessions are required by TAC and EAC policy to attend a training workshop before their scheduled session. Ensuring that all ACI session moderators understand the duties and responsibilities of moderating a session is one of the goals of this session, as well as ensuring that they are aware of the resources available and planning timetables. Approval to sponsor a technical session at an ACI convention is contingent on prior attendance at a session moderator orientation workshop.
Student Lunch
12:00 PM - 2:00 PM
$28 per person

Sponsored by the ACI National Capital Chapter

Speaker: Peter H. Emmons
CEO
Structural Group
Baltimore, MD

Topic: Career Paths in Concrete Construction—Choosing a Company or Organization That Fits Your Needs

Emmons will provide tips on interviewing, questions to ask, career vision, and discuss leadership skills. A buffet lunch will be served.

Awards for first, second, and third place winners in the Student Egg Protection Device and FRC Bowling Ball competitions will be announced. In addition, the EAC award for the Speaker of the Year will be given to S.K. Ghosh.

Tickets may be purchased at the ACI Registration Desk until 24 hours prior to the event. Please notify the ACI Registration Desk if you have any dietary restrictions.
Seismic Assessment and Retrofit Techniques for Concrete Bridges

Sponsored by Committee 341

Session Co-Moderators: Sri Sritharan
Assistant Professor
Department of Civil and Construction Engineering
Iowa State University
Ames, IA

Dawn Lehman
Assistant Professor
Department of Civil Engineering
University of Washington
Seattle, WA

State-of-the-Art Summary on Seismic Assessment for Concrete Bridges
Dawn Lehman, Assistant Professor, Department of Civil Engineering, University of Washington, Seattle, WA; David H. Sanders, University of Nevada; and Adolfo B. Matamoros, University of Kansas
2:00 PM

State-of-the-Art Summary on Seismic Retrofit Techniques for Concrete Bridges
Sri Sritharan, Assistant Professor, Department of Civil and Construction Engineering, Iowa State University, Ames, IA; and Tony Powers, HDR Engineering
2:25 PM

Seismic Vulnerability Evaluation of I-880 Interstate Bridge in California
Sashi K. Kunnath, Associate Professor, Department of Civil & Environmental Engineering, University of California at Davis, CA
2:50 PM

Seismic Retrofit of Bridges Using Restrainer Cables
Reginald DesRoches, Assistant Professor, School of Civil Engineering, Georgia Institute of Technology, Atlanta, GA
3:15 PM

Seismic Evaluation and Retrofit of Octagonal Bridge Columns with Pedestals
M. Saaid Saidi, Professor, Department of Civil Engineering, University of Nevada, Reno, NV; and Ahmad Itani, Nathan Johnson, and Samaan Ladhany, University of Nevada
3:40 PM
Seismic Assessment and Retrofit Techniques for Concrete Bridges-continued

Seismic Retrofit of Bent Cap/Column 4:05 PM
Joints in Missouri
Pedro F. Silva, Assistant Professor, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO

Survey of Bridge Seismic Retrofit Projects 4:35 PM
in St. Louis
Mark R. Capron, Project Manager, Jacobs Civil Inc., St. Louis, MO
Durability Performance of FRP Systems, Part II

Monroe W

Sponsored by Committee 440

Session Co-Moderators: John J. Myers
Assistant Professor
Department of Civil, Architectural, and Environmental Engineering
University of Missouri-Rolla
Rolla, MO

H.R. Hamilton
Associate Professor
Department of Civil Engineering
University of Florida
Gainesville, FL

Evaluation of Various Environmental Conditions on Reinforced Concrete Columns Confined by FRP Sheet
Sang-Wook Bae, Graduate Research Assistant, Department of Civil, Architectural, and Environmental Engineering, University of Missouri-Rolla, MO; and Abdeljalil Belarbi and John J. Myers, University of Missouri-Rolla

Effectiveness of Using CFRP Repair Technique to Extend Service Lives of Corroded Beams
Tamer El Maaddawy, Department of Civil Engineering, University of Waterloo, Waterloo, ON, Canada; and Khaled Soudki and Tim Topper, University of Waterloo

Fatigue Behavior of Bonded FRP Flexural Retrofit Systems
Sergio F. Brenéa, Assistant Professor, College of Engineering, University of Massachusetts-Amherst, Amherst, MA; and Kent A. Harries, University of South Carolina

Effect of Environmental Conditioning on Fatigue Performance of RC Beams Strengthened with CFRP Bonded Laminates
John J. Myers, Assistant Professor, Department of Civil, Architectural, and Environmental Engineering, University of Missouri-Rolla, Rolla, MO; and Mahmut Ekenel, University of Missouri-Rolla

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Durability Performance of FRP Systems, Part II-continued

Appropriateness of Environmental 4:20 PM
Knock-Down Factors for e-Glass Reinforced Polymers
Paul H. Ziehl, Assistant Professor, Department of Civil and Environmental Engineering, Tulane University, New Orleans, LA
Monday, March 15
2:00 PM - 5:00 PM

★ Repair of Historic
Concrete Structures

Hemisphere

Sponsored by Committees 364 & 546

Session Co-Moderators: Paul E. Gaudette
Consultant
Wiss, Janney, Elstner Associates
Chicago, IL

Lawrence F. Khan
Professor
School of Civil Engineering
Georgia Institute of Technology
Atlanta, GA

Introduction 2:00 PM
Paul E. Gaudette, Consultant, Wiss, Janney, Elstner Associates,
Chicago, IL

Repair of Jefferson Davis Monument 2:05 PM
Joseph P. Lenzi, Vice President, Senler Campbell Associates,
Louisville, KY; and Paul E. Gaudette, Wiss, Janney, Elstner Associates,
Inc.

Falling Water Renovation 2:35 PM
Jason Hughes, VStructural, LLC, Springfield, VA; and Don Klein, VSL

Restoration of Montgomery Ward’s Warehouse 3:05 PM
Rhocei Bon, Associate, Klein and Hoffman, Chicago, IL; and Jay
Paul, Klein and Hoffman

Repair of Lost Creek and Strawberry Dams 3:35 PM
Peter Barlow, Principal, ConTech Group, Inc., Seattle, WA

Renovation of Center Street Lions 4:05 PM
Dudley (Rusty) Morgan, AMEC Earth & Environmental, Ltd,
Vancouver, British Columbia, Canada

Meridian Hill Park: Decorative Concrete Replication and Repair 4:35 PM
Terry J. Willems, Senior Materials Scientist, Construction Technology Laboratories, Inc., Skokie, IL; and Robert F. Armbruster, The
Armbruster Company, Inc.

★ Denotes theme session

96
Monday, March 15  
2:00 PM - 5:00 PM

★ Concrete Aggregates: State of the Art  
Lincoln E

Sponsored by Committee 221

Session Co-Moderators:  
Don Powell  
Technical Director  
Vulcan Materials Co.  
Birmingham, AL

David W. Fowler  
Joe King Chair in Engineering  
Department of Civil Engineering  
University of Texas at Austin  
Austin, TX

Introduction  
2:00 PM  
Don Powell, Technical Director, Vulcan Materials Co., Birmingham, AL

Concrete Made with High Microfines Contents  
2:10 PM  
David W. Fowler, Joe King Chair in Engineering, Department of Civil Engineering, University of Texas at Austin, Austin, TX

Computational Materials Science of Aggregates  
2:40 PM  
Edward J. Garboczi, Leader, Inorganic Materials Group, Materials and Construction Research Division, National Institute of Standards and Technology, Gaithersburg, MD

Rheology and Aggregate Gradation and Shape  
3:00 PM  
Chiara Ferraris, Physicist, National Institute of Standards and Technology, Gaithersburg, MD

Plainfield, IL, Concrete Paving Demonstration with High Fines Manufactured Sand  
3:30 PM  
Charles A. Saunders, Director of Technical Services, Midwest Division, Vulcan Materials Co., Lombard, IL

★ Denotes theme session

97
Monday, March 15
2:00 PM - 5:00 PM

★ Concrete Aggregates: State of the Art—continued

Testing Methods for Evaluating Efficacy of ASR Prevention Strategies
Michael Thomas, Professor, Department of Civil Engineering, University of New Brunswick, Fredericton, NB, Canada

Self-Consolidating Concrete: Design, and Applications
Jack Holley, Vice President, Quality Assurance and New Product Development, Lafarge North America, Herndon, VA

★ Denotes theme session
Monday, March 15
2:00 PM - 5:00 PM

★ Evolution of Concrete Design and Codes

Georgetown E

Sponsored by Committees E 702 & E 802

Session Moderator: Joseph A. Amon
Vice President and Managing Principal
Ardaman & Associates, Inc.
Tampa, FL

Introduction 2:00 PM
Joseph A. Amon, Vice President and Managing Principal, Ardaman & Associates, Inc., Tampa, FL

Walter P. Moore Award Recipient Presentation 2:05 PM
W. Jason Weiss, Assistant Professor, Department of Civil Engineering, Purdue University, West Lafayette, IN

Where Did Your Concrete Come From? A Look Back at the Development of the Ready-Mix Industry 2:40 PM
Jon Mullarky, Senior Project Engineer, Soil and Land Use Technology, Inc., Chester, MD

First in Concrete, Pavement Design and Construction 3:15 PM
Kurt D. Smith, Program Director, Applied Pavement Technology, Inc., Champaign, IL

History of Welded Wire Reinforcement 3:50 PM

Tracing Concrete Mixture Technology, 1914-2004 4:25 PM
James M. Shilstone, Sr., President, The Shilstone Companies, Inc., Dallas, TX and James M. Shilstone, Jr., The Shilstone Companies, Inc.

★ Denotes theme session
Women in ACI Reception

Sponsored by ACI

Get-together, relax and exchange memories of ACI. This gathering is a great networking opportunity and is free to all wishing to attend. Light refreshments and a cash bar will be available. Note: Beverages for this event must be paid for with cash and cannot be charged to your room.

Kate Gleason
"First Lady of Concrete"
Monday, March 15
6:30 PM - 11:00 PM

✓ Centennial Dinner
$50 per person

Hosted by ACI

Thank you to the Centennial Dinner Sponsors (as of 2/11/04)
The Cagley Group
Lehigh Cement Company
Master Builders, Inc.
Portland Cement Association
Sika

Take a look back at ACI's first century and honor individual contributions to the concrete community. ACI's Past Presidents and Honorary Members will be individually recognized.

A cocktail reception will be held from 6:30 PM - 7:00 PM in the Jefferson Foyer. A band will delight attendees with dancing music following the four-course meal and presentations. Due to the significance of this event, a coat and tie are required. Black tie is optional.

Tickets may be purchased at the ACI Registration Desk until 10 AM on Monday, March 15, 2004. Please notify the ACI Registration desk if you have any dietary restrictions.

✓ Separate Fee Required
Monday, March 15
7:00 PM - 10:00 PM

123 Forum: Research for the Future—Who Pays?

Sponsored by Committee 123

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

Introduction 7:00 PM
Mohammad S. Khan, Vice President, Professional Service Industries, Inc., Fairfax, VA

Synergistic Opportunities for Research 7:05 PM
Steven H. Kosmatka, Managing Director, Portland Cement Association, Skokie, IL

Research for the Future—Participation of Private Industry is Vital 7:20 PM
Tate Coverdale, Director, Product Development, Degussa, Beachwood, OH

ACBM—A University Research Consortium for Industry 7:35 PM
James L. Lingscheit, Director, Industrial Programs, Advanced Cement Based Materials, Northwestern University, Evanston, IL

U.S. Army Corps of Engineers, R&D Process Fund Research 7:50 PM
Tony C. Liu, Senior Program Manager, Army Corps of Engineers, Washington D.C.

NIST’s Approach to Research Funding: New ATP Competition 8:05 PM
Donald Banslaben, Acting Group Leader, Office of Chemistry & Live Sciences, National Institute of Standards and Technology, Gaithersburg, MD

Questions, Answers, & Discussion 8:20 PM
Tuesday, March 16
7:00 AM - 8:30 AM

Chapter Forum—Elements of Successful Chapter Seminars

Sponsored by the Chapter Activities Committee

Session Moderator: Luke M. Snell
Professor of Construction
Director, Resource Unit
Southern Illinois University at Edwardsville
Edwardsville, IL

Chapters and Seminars 7:00 AM

Luke M. Snell, Professor of Construction and Director, Resource Unit, Southern Illinois University at Edwardsville, Edwardsville, IL

Elements of Successful Chapter Seminars 7:30 AM

David N. Richardson, Associate Professor, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO

How to Organize a Concrete Conference 8:00 AM

Top 10 List

M. R. Hansen, Professor, Department of Civil Engineering, South Dakota School of Mines and Technology, Rapid City, SD
Continental Breakfast
8:00 AM - 9:00 AM

Sponsored by ACI & ASCC

A continental breakfast will be served prior to the Contractor's Day Session.

★ Contractor's Day: Mixed
Concrete Topics—A Contemporary Collection
9:00 AM - 12:00 PM

Sponsored by the Construction Liaison Committee and the ACI National Capital Chapter

Session Moderator: James H. Baldridge
Senior Vice President
ECS, Ltd.
Chantilly, VA

Introduction
9:00 AM
James H. Baldridge, Senior Vice President, ECS, Ltd., Chantilly, VA

Managing a Large, Fast-Track, Concrete Project: 9:05 AM
The United States Patent and Trademark Office—Lessons Learned
John McIntire, Vice President, Turner Construction Company,
Arlington, VA

What You Must Know About Safety on Concrete Projects, Large or Small 10:05 AM
Pete Courtenmanche, Director of Safety, Tucon Construction,
Dulles, VA

Innovation with Formwork—Examples to Inspire 11:05 AM
Your Imagination
James H.J. Hughes, III, Executive Vice President, Conesco Doka,
Little Ferry, NJ

★ Denotes theme session
Tuesday, March 16
9:00 AM - 12:00 PM

Washington D.C.: A Concrete City

Sponsored by the ACI National Capital Chapter

Session Co-Moderators: Debrethann R. Cagley Orsak
Vice President/Manager
Business Development
Cagley and Associates
Rockville, MD

Glenn R. Smith, Jr.
Structural Engineer
Federal Highway Administration
Washington D.C.

Pentagon Renovation & Phoenix Project—PENREN  9:00 AM
William Colston, Phoenix Project Team Leader, Pentagon Renovation Program Office, Arlington, VA

Overview of Washington Airports With Respect to Concrete Application  9:20 AM
Frank Lunking, Lead Structural Engineer, Parsons Management Consultants, Dulles, VA

Wilson Bridge—Project of the Century  9:40 AM
Greg Shaffer, Regional Bridge Engineer, Parsons, Baltimore, MD

National Museum of the American Indian  10:00 AM
Harold E. Davis, Senior Vice President, SmithGroup Mid Atlantic, Washington D.C.

Springfield, VA, Mixing Bowl  10:30 AM
Bart Clark, HNTB Corporation, Arlington, VA

The Capitol Visitor Center  11:00 AM
Alan Hantman, Architect, U.S. Capitol, Washington D.C.

Mark O. Hatfield Clinical Research Center, National Institute of Health  11:30 AM
James R. Cagley, President, Cagley and Associates, Rockville, MD
Tuesday, March 16
9:00 AM - 12:00 PM

★ Innovations in Concrete
Jefferson W. Allen
Bridge Design & Construction—Historic Structures

Sponsored by Committee 343

Session Co-Moderators:
John H. Allen
Project Manager
Jacobs Civil Inc.
West Des Moines, IA

Barney A. Martin
Vice President
Modjeski & Masters Engineers
Poughkeepsie, NY

Introduction
9:00 AM
John H. Allen, Project Manager, Jacobs Civil, Inc., West Des Moines, IA

Bridging the Early 20th Century—The Luten
Concrete Arches
Perry S. Green, Assistant Professor, Department of Civil Engineering,
University of Florida, Gainesville, FL

Slabs, Arches and Girders: Concrete
Highway Bridge Construction in the U.S.
in the Early 20th Century
Charlene K. Roise, President, Hess, Roise and Company,
Minneapolis, MN

Prestressed Box Girder Bridges in Cuba in
the 1950s
Angel Herrera, Consulting Engineer, San Juan, PR; and Domingo
Carreira, Illinois Institute of Technology

Zaza River Bridge
10:35 AM
Mario G. Suarez, Consulting Engineer, New Rochelle, NY

100 Years of Reinforced Concrete Arch Bridge—Development and Innovation
11:05 AM
Mike Plei, Manager of Transportation Structures, Concrete
Reinforcing Steel Institute, Schaumburg, IL

Open Spandrel Concrete Arches—New and Old
11:35 PM
W. M. Davidge, Vice President, Wiley & Wilson, Richmond, VA

★ Denotes theme session
Tuesday, March 16
9:00 AM - 12:00 PM

★ Celebrating a Century of Beautiful Concrete, Part 1  
Monroe W

Sponsored by Committee 124

Session Co-Moderators:  
Mary K. Hurd
Engineer
Engineered Publications
Farmington Hills, MI

Raymond R. Pisaneschi
Marketing & Technical Manager
Lehigh White Cement
Allentown, PA

Dedication to Eugene C. Figg  
Stewart C. Watson, Kinematics, East Amherst, NY

Concrete Craftsmanship: 100 Years of Innovation and Artistry  
Jamie Farra, Masonry and Special Products Program Manager, Portland Cement Association, Skokie, IL

Evolution of Concrete Masonry  
Robert Thomas, National Concrete Masonry Association, Herndon, VA

Creating Bridges as Art Through the Decades  
Linda Figg, President, Figg Engineering Group, Tallahassee, FL

Architectural Cast Stone: Its Place in the History of Celebrating a Century of Beautiful Concrete  
D. James Edwards, CEO, Edwards Cast Stone Co., Cast Stone Institute, Dubuque, IA

Steps for Yesterday that Led to Today's Beautification of Decorative Concrete Flatwork  
Joe Nasvik, Decorative Concrete Council & Concrete Construction Magazine, Addison, IL

Terrazzo Through the Ages  
George D. Hardy, Executive Director, National Terrazzo & Mosaic Association, Purcellville, VA; and David Laudadio, National Terrazzo & Mosaic Association

★ Denotes theme session
Fly Ash for ASR Mitigation—How Critical are the CaO Limits?

Sponsored by Committee 232

Session Co-Moderators:
Karthik H. Obla
Director of Research and Materials Engineering
National Ready Mixed Concrete Association
Silver Spring, MD

Russell Hill
Vice President
Technology Development/Marketing
Boral Material Technologies, Inc.
San Antonio, TX

Introduction
9:00 AM
Karthik H. Obla, Director of Research and Materials Engineering, National Ready Mixed Concrete Association, Silver Spring, MD

Implementation of ASR Prevention Guidelines into DoD Unified Facilities Guide Specifications
9:05 AM
Luis Malvar, Research Engineer, U.S. Navy, Port Hueneme, CA; and Greg Cline

Fly Ash Performance for Mitigating ASR
9:35 AM
Kevin J. Folliard, Assistant Professor, Department of Civil Engineering, University of Texas at Austin, Austin, TX

Use of Accelerated Mortar Bar and Concrete Prism Tests for Evaluating Effectiveness of Fly Ash and Ternary Systems to Control Alkali-Silica Reactivity in Concrete
10:05 AM
Pierre-Claver Nkinamubanzi, Research Scientist, CANMET/Natural Resources, Ottawa, ON, Canada

Modeling Effect of Fly Ash Composition on Alkalinity of Pore Solution and Expansion Due to Alkali-Silica Reaction in Concrete
10:35 AM
Medhat Shehata, Assistant Professor, Department of Civil Engineering, Ryerson University, Toronto, ON, Canada
Fly Ash for ASR Mitigation—How Critical are the CaO Limits?—continued

Effect of Fly Ash Composition on Field 11:05 AM
Performance of Concrete with Reactive Aggregates
Michael Thomas, Professor, Department of Civil Engineering,
University of New Brunswick, Fredericton, NB, Canada

Use of Clean-Coal Ash for Managing ASR 11:35 AM
Tarun R. Naik, Director, UWM Center for By-Products Utilization and
Professor of Structural Engineering, Department of Civil Engineering
and Mechanics, University of Wisconsin-Milwaukee, Milwaukee, WI;
and Zichao Wu, Bridge Engineer, Earth Tech Canada, Inc.,
Edmonton, AL, Canada
Contractor's Day Lunch
12:00 PM - 2:00 PM
$32 per person

Hosted by the Construction Liaison Committee and
the ACI National Capital Chapter

Speaker: Allyn Kilsheimer
President
KCE Structural Engineers
Washington D.C.

Topic: Phoenix Project—Rebuilding the
Pentagon After 9/11

Kilsheimer was the Structural Engineer of Record for the Phoenix Project that repaired damage to the Pentagon caused by the September 11, 2001, terrorist attack. His presentation chronicles the achievement and dedication of the many companies and people who restored 400,000 square feet of a concrete structure that had been the offices for the Headquarters of the Department of Defense (DoD). This enormous reconstruction effort was completed ahead of schedule and under budget; it was reoccupied by the DoD before the one-year anniversary of the attack. A buffet lunch will be served.

Tickets may be purchased at the ACI Registration Desk until 24 hours prior to the event. Please notify the ACI Registration Desk if you have any dietary restrictions.
Tuesday, March 16
2:00 PM - 5:00 PM

★ Contractor’s Day: Lincoln W
Productivity, Concrete &
Masonry—Technology Applications
That Will Increase Your Productivity

Sponsored by the Construction Liaison Committee and the ACI
National Capital Chapter

Session Moderator: James H. Baldridge
Senior Vice President
ECS, Ltd.
Chantilly, VA

Introduction 2:00 PM
James H. Baldridge, Senior Vice President, ECS, Ltd., Chantilly, VA

Non-Destructive Testing of Concrete—
A Contractor’s Perspective 2:05 PM
Stan Murphy, Principal Engineer, ECS, Ltd., Chantilly, VA

Self-Consolidating Concrete—You Will be Amazed 3:05 PM
Joseph A. Daczko, Group Manager of Concrete Technology,
Department of Research and Development, Master Builders, Inc.,
Cleveland, OH

Concrete Masonry—High Lift Grouting and
Other Masonry Innovations to Increase Productivity 4:05 PM
Ronald Heckel, Regional QA/ Product Development Manager,
Lafarge North America, Towson, MD; and David Miller, President,
M-Tec Corporation, Chesapeake, VA

★ Denotes theme session
Open Paper Session

Sponsored by Committee 123

Session Co-Moderators: John S. Popovics
Assistant Professor, Department of Civil and Environmental Engineering
University of Illinois at Urbana-Champaign
Urbana, IL

Prasad R. Rangaraju
Assistant Professor
Department of Civil Engineering
Clemson University
Clemson, SC

Introduction 2:00 PM
John S. Popovics, Assistant Professor, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL

Design of Discontinuity Regions for Strength and Serviceability Using Strut-and-Tie Models 2:05 PM
Tjen N. Tjin, Graduate Research Assistant, Department of Civil Engineering, University of Illinois at Urbana-Champaign, Urbana, IL; and Daniel A. Kuchma, University of Illinois at Urbana-Champaign

Indirect Deflection Control of Concrete Beams and One-Way Slabs Reinforced with FRP 2:30 PM
Carlos E. Ospina, Design Engineer, Berger/ABAM Engineering, Inc., Federal Way, WA; and Scott D.B. Alexander, University of Alberta

Behavior of FRP Reinforced Concrete Members Under Simulated Seismic Loading 2:55 PM
Mohammad Kazem Sharbatdar, Research Assistant, Department of Civil Engineering, University of Ottawa, Ottawa, ON, Canada; and Murat Saatcioglu, University of Ottawa
Open Paper Session-continued

Seismic Performance of Concrete-Filled FRP Tubes as Bridge Pier Columns 3:20 PM
Zhenyu Zhu, Research Assistant, Department of Civil Engineering, North Carolina State University, Raleigh, NC; and Amin Mirmaran, North Carolina State University

Effects of Synthetic Fibers on Structural Behavior of Concrete Slabs Supported on Ground 3:45 PM
Salah A. Al-toubat, Assistant Professor of Civil Engineering, University of Sharjah, United Arab Emirates; Jeffery R. Roesler and David A. Lange, University of Illinois; and K.A. Rieder, W.R. Grace

Is Superposition of Creep Strains Valid for Concretes Subjected to Drying Creep 4:10 PM
N.J. Gardner, Professor, Department of Civil Engineering, University of Ottawa, Ottawa, ON, Canada; and Hiroaki Tsuruta, Kyushu University

Construction of Containment Structures of Indian NPP Using HPC 4:35 PM
Prabir C. Basu, Director, Civil and Structural Engineering Division, Atomic Energy Regulatory Board, Mumbai, India; and Amit Mittal, Nuclear Power Corporation
Effect of Displacement on Strength of R/C Members Subjected to Seismic Loading

Sponsored by Committee 341

Session Co-Moderators: Adolfo B. Matamoros
Assistant Professor
Department of Civil, Architectural, and Environmental Engineering
University of Kansas
Lawrence, KS

Mark Aschheim
Associate Professor
Department of Civil Engineering
Santa Clara University
Santa Clara, CA

Deformations of Reinforced Concrete Columns Under Shear Reversals
Santiago Pujol, Wiss, Janney, Elstner Associates, Inc., Emeryville, CA

Effect of Load History on Buckling of Reinforcement in RC Bridge Columns
Mervyn J. Kowalsky, Assistant Professor, Department of Civil Engineering, North Carolina State University, Raleigh, NC; and Matthew J. Moyer, North Carolina State University

Impact of Different Shake Table Loadings on New and Old Designed Columns
David H. Sanders, Associate Professor, Department of Civil Engineering, University of Nevada, Reno, NV; Patrick Laplace and M. Saaid Saidi, University of Nevada; and Saad El-Azazy, Caltrans

Damage Accumulation in Lightly Confined Bridge Columns
R. Tyler Ranft, Research Assistant, Department of Civil & Environmental Engineering, University of Washington, Seattle, WA; and Marc O. Eberhard and John F. Stanton, University of Washington

Cumulative Seismic Damage of Ductile Reinforced Concrete Bridge Piers
Sashi K. Kunnath, Associate Professor, Department of Civil & Environmental Engineering, University of California at Davis, Davis CA; Andrew Taylor, FPFF Consulting Engineers; and Ashraf El-Bahy, TLC Engineers

Effects of Loading History on San Francisco-Oakland Bay Bridge East Span Seismic Safety Project
Eric M. Hines, Research Assistant Professor, Department of Civil and Environmental Engineering, Tufts University, Medford, MA
Celebrating a Century of Beautiful Concrete, Part II

Sponsored by Committee 124

Session Co-Moderators: Mary K. Hurd
Engineer
Engineered Publications
Farmington Hills, MI

Raymond R. Pisaneschi
Marketing & Technical Manager
Lehigh White Cement
Allentown, PA

Introduction
Raymond R. Pisaneschi, Marketing & Technical Manager, Lehigh White Cement, Allentown, PA

Architectural Precast Concrete: Yesterday and Today
Sid Freedman, Director, Architectural Precast Concrete Services, Precast/Prestressed Concrete Institute, Chicago, IL

Baha'i Temple—An Aesthetic Achievement
Robert Armbruster, President, The Armbruster Company, Inc., Glencoe, IL

Concrete Walls as Art—Creative Formliner Applications
Buck Scott, President, Scott Systems, Inc., Denver, CO; and Dana Scott, Scott Systems, Inc.

Designing Precast Bridges in Harmony with Historic Sites
Tim Beach, CON/SPAN Bridge Systems, Dayton, OH

From a Builder's Viewpoint—A Review of Concrete Aesthetics
Chris Forster, Vice President, Morley Construction Co., Santa Monica, CA

Brighter and Better Concrete
Michael Chusid, Consultant, Chusid Associates, Consultants to Engelhard Corporation, Tarzana, CA

Denotes theme session
Tuesday, March 16
2:00 PM - 5:00 PM

* Concrete: Internationally Speaking

Lincoln E.

Sponsored by the ACI National Capital Chapter

Session Co-Moderators: Gajanan M. Sabnis
Professor & Consultant
Department of Civil Engineering
Howard University
Silver Spring, MD

J.P. Mohsen
University of Louisville
Louisville, KY

Concrete in India: An Overview

Mahesh Tandon, President, ICI, Tandon Consultants, Pvt. Ltd, New Delhi, India

2:00 PM

ACI and Concrete in the UAE—Progress in the Last 30 Years

Elias B. Sayah, Consulting Engineering Bureau, Abu Dhabi, UAE; and A-R. Sabouni Sayah, Consulting Engineering Bureau

2:25 PM

Progress in Concrete Education and Research in Iran

Reza Aliaghebandian, Professor, Department of Civil Engineering, University of Tehran, Tehran, Iran

2:50 PM

Progress in Concrete Activities in Japan with ACI

Shiro Morita, President, JCI Board Chairman, General Building Research Corporation of Japan, Osaka, Japan

3:15 PM

Progress in Concrete in South America with ACI Help

Juan Pablo Covarrubias, Chilean Cement and Concrete Institute, Santiago, Chile

3:40 PM

Prestressed Concrete in India: 70 Years and Getting Stronger!

S.A. Reddi, Deputy Managing Director, Gammons (India) Limited, Mumbai, India

4:05 PM

Promising Concrete in Research and Applications in Scandinavian Countries

Per Fidjestol, Elkem ASA Materials, Kristiansand, Norway

4:30 PM

* Denotes theme session

116
Tuesday, March 16
7:00 PM - 9:00 PM

Concrete Mixer—America On the Move
National Museum of American History
Smithsonian Institute

Sponsored by the ACI National Capital Chapter

The Smithsonian Institute, National Museum of American History, welcomes ACI attendees to a special Centennial Concrete Mixer celebration. Join friends and colleagues while enjoying beverages and light hors d’oeuvres, compliments of the ACI National Capital Chapter. Note: Drink tickets are NOT needed for this event.

Some of the exhibitions which will be open during the Concrete Mixer include: America on the Move, The American Presidency, The Beatles! Backstage and Behind the Scenes—Photo Show, The Tumultuous Fifties—A View From the New York Photo Archives, First Ladies—Political Role and Public Image, and Bon Appetit—Julia Child’s Kitchen. These are just a few!

All ACI attendees MUST wear a name badge to board the bus and enter the Smithsonian. Buses will depart from the Terrace Level Exit of the Hilton Washington.
Concrete Realities in India

Lincoln W

Sponsored by the ACI India Chapter

Session Moderator:
Rameshchandra N. Raikar
President & Coordinator
ACI India Chapter
Mumbai, India

Journey of India Chapter Through 25 Years and Beyond
9:00 AM
S.K. Manjrekar, Chairman & Managing Director, Sunanda Speciality

Building India’s Infrastructure L & T Experience
9:30 AM
A. Ramakrishna, President (Operations) Deputy Managing Director,
ECC Division (Engineering Construction & Contracts), Larsen &
Toubro Limited, Bangalore, India

Infrastructure Sector—Power Projects, Nuclear, Hydel from Concrete Reality to a Concrete Future
10:00 AM
Ajit Gulabchandji, Managing Director, Hindustan Construction Co.
Ltd., Mumbai, India

Road Communication Skyline in Mumbai Leading to Pune through Express Highway
10:30 AM
Nitin Gadkari, Leader of Opposition, Member, Maharashtra
Legislative Council and Former Minister for Public Works, Mumbai,
India

Konkan Railway & Delhi Metro Challenges Resolved
11:00 AM
E. Sreedharan, Managing Director, Delhi Metro Rail Corporation Ltd.,
Joint Venture of Government of India and Government of Delhi,
Delhi, India

Growth of Cement Industry and its Initiative on Sustainable Construction Practice in India
11:30 AM
A.V. Srinivasan, Secretary General, Cement Manufacturers’ Association,
Delhi, India

Denotes theme session
Innovations in Concrete Bridge Design & Construction: Recent Developments

Sponsored by Committee 343

Session Co-Moderators:
Steven L. Stroh
Director of Major Bridges
URS Corporation
Tampa, FL

John H. Allen
Project Manager
Jacobs Civil Inc.
West Des Moines, IA

Introduction 9:00 AM
Steven L. Stroh, Director of Major Bridges, URS Corporation, Tampa, FL

Innovations in Segmental Concrete Bridges 9:05 AM
W. Denney Pate, Principal Bridge Engineer, Figg Engineers, Inc., Tallahassee, FL; and Patrick P. Hickox, Figg Engineers, Inc.

Advancement in Concrete Cable-Stayed Bridges 9:35 AM
Man-Chung Tang, Chairman and Technical Director, T.Y. Lin International, San Francisco, CA

Extradosed Prestressed Bridge Concept 10:05 AM
Steven L. Stroh, Director of Major Bridges, URS Corporation, Tampa, FL

Innovative Construction Methods for Segmental Concrete Bridges 10:35 AM
Gregory H. Shafer, Regional Bridge Engineer, Parsons, Broomfield, CO; and Tom Stelmack, Parsons

Enhancing Durability of Post-Tensioning in Bridges 11:05 AM
John Corven, President, Corven Engineering, Tallahassee, FL

Accelerated Bridge Construction Initiatives 11:35 AM
Jerry L. Potter, Technical Specialist for Major Concrete Bridge Structures, Federal Highway Administration Office of Bridge Technology, Washington, D.C.
Cement Grouting: Innovative Materials for the 21st Century

Sponsored by Committee 552

Session Co-Moderators: Bryan Skaggs
Principal Scientist
CP Kelco
San Diego, CA

Brian H. Green
Research Geologist
Engineer Research and Development Center
U.S. Army Corps of Engineers
Vicksburg, MS

Peter Yen
Principal Engineer
Geotechnical Specialist Group
Bechtel National
San Francisco, CA

Introduction 9:00 AM
Peter Yen, Principal Engineer, Geotechnical Specialist Group, Bechtel National, San Francisco, CA

Grouting for Braddock Dam Innovative In-the-Wet Project 9:05 AM
Brian Greene, Chief Geologist, Pittsburgh District, U. S. Army Corps of Engineers, Pittsburgh, PA

Effect of Ultrafine Cement Manufacturing Process on Grout Penetrability 9:35 AM
James Warner, Consulting Engineer, Mariposa, CA

Advancement in U.S. Army Corps of Engineers Grouting Practices 10:05 AM
Michael J. Klosterman, Chief Geologist, HQ, U.S. Army Corps of Engineers, Washington, D.C.

Recommended Construction Practice for Post-Tensioning Grouts 10:35 AM
Jessica R. DeSalvo, Research Assistant, Pennsylvania State University, State College, PA
Cement Grouting: Innovative Materials for the 21st Century-continued

Enhancing Durability of Post-Tensioning 11:05 AM
Structures by Improving Quality of Grouting
Stephanie Vildaer, Director, R&D, VSL International Ltd.,
Montigny-le-Bretonneux Cedex, France

Grout Repair in Plastic Hinge Regions 11:35 AM
Andrew Budek, Assistant Professor, Department of Civil Engineering,
Texas Technological University, Lubbock, TX
Sustainability—A New Issue for the Concrete Industry, Part I

Sponsored by the ACI Board Advisory Committee on Sustainable Development

Session Co-Moderators:
- Terence C. Holland
  Consulting Engineer
  Mantua, OH
- V. Mohan Malhotra
  Scientist Emeritus
  CANMET/NRCAN
  Ottawa, ON, Canada

Introduction 9:00 AM
V. Mohan Malhotra, Scientist Emeritus, CANMET/NRCAN, Ottawa, ON, Canada

ACI Board Task Group on Sustainability White Paper
Terence C. Holland, Consulting Engineer, Mantua, OH

Coal Combustion Product Partnership Activities at EPA’s Office of Solid Waste
John Sager, Environmental Protection Specialist, U.S. Environmental Protection Agency, Washington D.C.

Using Concrete to Gain LEED Points 10:15 AM
Martha G. VanGeem, Principal Engineer, Construction Technology Laboratories, Inc., Skokie, IL

Sustainable Design and Development for Army Facilities 10:50 AM
David McKay, Research Civil Engineer, U.S. Army Engineer Research and Development Center, Champaign, IL

Environmental Issues and Opportunities: A Cement Industry Perspective 11:25 AM
George B. Barney, Vice President, Market Development and Technical Services, Portland Cement Association, Skokie, IL
Wednesday, March 17
12:00 PM - 2:00 PM

✓ International Luncheon
12:00 PM - 2:00 PM
$30 per person

Hosted by the International Committee

Speaker: Adam Neville
Principal
London, England

Title: 100 Years of ACI as Seen by an 80-Year Old Non-American—A Reality Check

Neville will review a century of progress of concrete technology and discuss a course of action needed to enhance the inherent properties of concrete as a choice of construction materials worldwide. A buffet lunch will be served.

Tickets may be purchased at the ACI Registration Desk until 24 hours prior to the event. Please notify the ACI Registration Desk if you have any dietary restrictions.

✓ Separate Fee Required
Transport Properties of Concrete

Sponsored by Committee 236

Session Co-Moderators:
- Peter Claisse
  Senior Lecturer
  School of Science and the Environment
  Coventry University
  Coventry, UK

- Ken Snyder
  National Institute of Standards and Technology
  Gaithersburg, MD

**Introduction to Transport Properties—What They Are and What They Do**

*Peter Claisse, Senior Lecturer, School of Science and the Environment, Coventry University, Coventry, UK*

**Long-Term Influence of Pozzolans and Slag on Mass Transport in Concrete**

*Michael Thomas, Professor, Department of Civil Engineering, University of New Brunswick, Fredericton, NB, Canada*

**ASTM Test for Transport**

*R. Doug Hooton, Professor, Department of Civil Engineering, University of Toronto, Toronto, ON, Canada*

**Modeling Transport Processes**

*Ken Snyder, National Institute of Standards and Technology, Gaithersburg, MD*

**Assessing Moisture Transport Properties of Concrete**

*J. Marchand, Department of Civil Engineering, Laval University, Quebec, Canada; and Y. Malti and E. Samson, Laval University*

**In-Situ Measurement of Transport**

*P.A. Muhammed Basheer, Professor, School of Civil Engineering, Queen's University of Belfast, Belfast, UK*
Wednesday, March 17
2:00 PM - 5:00 PM

⭐ Cracks and Their Effect on Rebar Corrosion: The Ultimate Hurdle for Service Life Models?

Sponsored by Committee 365

Session Co-Moderators: Carolyn M. Hansson
Professor
Department of Mechanical Engineering
University of Waterloo
Waterloo, ON, Canada

Tracy D. Marcotte
Staff Engineer
CVM Engineers
Wayne, PA

Introduction 2:00 PM
Tracy D. Marcotte, Staff Engineer, CVM Engineers, Wayne, PA

Effects of Concrete Cracks on Local Chloride Ingress 2:05 PM
R. Doug Hooton, Professor, Department of Civil Engineering, University of Toronto, Toronto, ON, Canada; and O. Graces, Ministry of Transportation, ON, Canada

Effect of Cracks on Chloride Content and Corrosion in Bridge Decks 2:35 PM
David Darwin, Deane E. Ackers Distinguished Professor of Civil Engineering, University of Kansas, Lawrence, KS; and JoAnn P. Browning and Will D. Lindquist, University of Kansas

On the Ingress of Chlorides in Cracked Concrete 3:05 PM
Mette Geiker, Associate Professor, Department of Civil Engineering, Technical University of Denmark, Lyngby, Denmark; and Henrik Stang, John Forbes Olesen, and Andre Kuter, Technical University of Denmark

Influence of Dynamic Loading on Corrosion of Reinforcing Steel in Cracked High Performance Concrete 3:35 PM
Carolyn M. Hansson, Professor, Department of Mechanical Engineering, University of Waterloo, Waterloo, ON, Canada; and A.R. Mendoza, University of Waterloo

Numerical Modeling of Durability Performance in Cracked Concrete 4:05 PM
Paul G. Tourney, Vice-President, Materials Service Life, LLC, Kalamazoo, MI; and Jacques Marchand, Materials Service Life, LLC

⭐ Denotes theme session
Historical Perspective on Experimental Analysis of Concrete Structures

Sponsored by Committee 444

Session Moderator: K. Nam Shiu
Principal
Walker Restoration Consultants
Elgin, IL

100 Years of Testing at University of Illinois 2:05 PM
William Gamble, Professor, Department of Civil and Environmental Engineering, University of Illinois–Urbana Champaign, Urbana, IL

Early Industrial Testing in PCA Laboratory 2:35 PM
W. Gene Corley, Senior Vice President, Construction Technology Laboratories, Inc., Skokie, IL

Physical Experiments in Designing of Concrete Structures and in Design Code Development 3:05 PM
Richard N. White, Professor, Department of Civil Engineering, Cornell University, Ithaca, NY

Experimental Testing Program for Transportation Infrastructures 3:35 PM
Moshen A. Issa, Professor, Department of Civil Engineering, University of Illinois-Chicago, Chicago, IL

Field Testing of Long-Span Concrete Bridges in U.S. 4:05 PM
K. Nam Shiu, Principal, Walker Restoration Consultants, Elgin, IL

Shake, Rattle, and Roll–The Development of Seismic Testing 4:35 PM
Andrew Budek, Professor, Department of Civil Engineering, Texas Technological University, Lubbock, TX

Denotes theme session
Wednesday, March 17
2:00 PM - 5:00 PM

Sustainability—A New Issue for the Concrete Industry, Part II

Sponsored by the ACI Board Advisory Committee on Sustainable Development

Session Co-Moderators: Tarun R. Naik
Professor
Department of Civil Engineering and Mechanics
University of Wisconsin-Milwaukee
Milwaukee, WI

Terence C. Holland
Consulting Engineer
Mantua, OH

Introduction

V. Mohan Malhotra, Chairman, ACI Board Task Group on Sustainability, Scientist Emeritus, CANMET/NRCAN, Ottawa, ON, Canada

Recent Developments in Self-Compacting Concrete in Europe

Mario Collepardi, Professor, Engineering Faculty, Politecnico di Milano, Milano, Italy

Simple Method of Proportioning Sustainable Concrete Mixtures

P. Kumar Mehta, Professor Emeritus, Department of Civil Engineering, University of California, Berkeley, CA

Concrete and the Economics of Recycling

Christian Meyer, Professor of Civil Engineering, Department of Civil Engineering and Mechanics, Columbia University, New York, NY

New Pozzolanic Materials for Sustainable Cement and Concrete Industry

Tarun R. Naik, Professor of Structural Engineering, Department of Civil Engineering and Mechanics, University of Wisconsin-Milwaukee, Milwaukee, WI; and Rudolph N. Kraus, University of Wisconsin-Milwaukee

New Solutions for Automobile Shredder Products

Jean Péra, Professor, Department of Civil Engineering, Institute National des Sciences, France, and Jean Ambroise, Institute National des Sciences

3:10 PM

3:35 PM
Sustainability—A New Issue for the Concrete Industry, Part II—continued

Lightweight Aggregates—Holistic Contribution to Sustainability
John P. Ries, Expanded Shale, Clay and Slate Institute; and Thomas A. Holm, Expanded Shale, Clay and Slate Institute

Cement Industry and the Concept of Sustainable Development
Jean-Claude Roumain, Corporate Products Manager, Holcim (US), Lakewood, CO; and Arezki Tagnit-Hamou, University of Sherbrooke
ACI Educational Seminar
Portland Cement Concrete Overlays: State of the Technology

Presented jointly by ACI and the Federal Highway Administration

Seminar Topics
Up-to-date technology will be presented on:
- Characteristics of different types of PCC overlays
- Advantages and disadvantages of different types of PCC overlays
- PCC overlay designs using current design procedures
- Process to evaluate multiple rehabilitation alternatives

Seminar Overview
This is a one-day (7.5 hours) workshop for pavement engineers and practitioners. The workshop will present the latest technology on the design, construction, and performance of portland cement concrete (PCC) overlays on both existing PCC pavements and existing hot-mix asphalt pavements. This workshop was developed by the Federal Highway Administration with the assistance of members of ACI Committee 325, Concrete Pavements.

Seminar Instructors
Angel L. Correa, Pavement Design Engineer, FHWA Resource Center, Atlanta, GA. He received his BS from the University of Puerto Rico, his MS in Civil Engineering, specializing in Transportation Facilities Engineering, at the University of Illinois at Urbana-Champaign, Urbana, IL.

Most of Mr. Correa's professional experience has been with concrete pavement design and rehabilitation. He has worked for the FHWA for 13 years with assignments in Baltimore, MD, Washington D.C., and Atlanta, GA. He is a registered Professional Engineer in Puerto Rico and Maryland.

Separate Fee Required
ACI Educational Seminar Portland Cement Concrete Overlays:
State of the Technology-continued

Roger M. Larson, PE, Senior Engineer, Applied Pavement Technology, Inc., Springfield, VA. Mr. Larson received his BS from South Dakota State University and his MS in Civil Engineering from the University of Minnesota. Mr. Larson is recognized in pavement circles for his background in concrete pavement design, performance, construction, and rehabilitation. Before joining Applied Pavement Technology, he had a long career with the FHWA where he was actively involved with highway research, planning, design and construction, and maintenance activities. For many years, he managed the research, development, and implementation of improved pavement design, construction, maintenance, and performance evaluation procedures.

The registration fee includes seminar handouts, continental breakfast, lunch, and coffee breaks. This seminar is worth 7.5 PDHs or 0.75 CEUs. PDHs are required by many states for maintaining Professional Engineer status. For additional information on this and other ACI seminars or to register online, visit http://www.concreteseminars.com/ or call 248-848-3815.

Separate Fee Required
TROUBLESHOOTING CONCRETE CONSTRUCTION

One-day seminar for contractors, design engineers, specifiers, government agencies, and material suppliers. This seminar will provide attendees with solutions to problems with concrete. The seminar will cover how to place reinforcement, how to prevent most cracks, making functional construction joints, what cracks can tell, how to properly vibrate concrete, how to detect delaminations, and how to identify deterioration of concrete. Complimentary publications include: ACI 301-99, ACI 302.1R-96, ACI 303R-91, ACI 308R-01, and ACI 309.2R-98. **Free publications, a $284.00 value, are included**

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<td>VAS</td>
<td>April 7, 2004</td>
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<td>New Orleans, LA</td>
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CONCRETE REPAIR BASICS

One-day seminar for engineers, repair contractors, material 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 causes and evaluation of problems in deteriorating concrete, repair techniques, repair materials, cracks and joints, and protection systems, overlays, and specifications for structures. Complimentary publications include: ACI 201.1R-92(97), ACI 224.1R-93(98), ACI 364.1R-94(99), ACI 437R-03, and ACI 546R-96(01). **Free publications, a $170.00 value, are included**

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For additional information on this and other ACI seminars or to register online, visit [http://www.concreteseminars.com/](http://www.concreteseminars.com/) or call 248-848-3815.
**CONCRETE SLABS ON GROUND**

One-day seminar for specifiers, architects, contractors, building owners, and government agencies. Attendees will learn to design, specify, and build quality concrete floors. This seminar will cover short- and long-term geotechnical concerns, and how to avoid floor moisture problems, design low-shrinkage concrete mixtures with good finishability, minimize problems due to curling and shrinkage, minimize joint problems while maximizing economy, design and build any one of the nine classes of floors, design, specify, and build for appropriate F-numbers, troubleshoot slabs, and know the differences between the six types of slabs on ground. Complimentary publications include: ACI 302.1R-96 and ACI 360R-92(97). **Free publications, a $178.00 value, are included**

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<tr>
<td>Dallas, TX</td>
<td>TXS</td>
<td>April 14, 2004</td>
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<td>Detroit, MI</td>
<td>MIS</td>
<td>April 21, 2004</td>
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<td>Charlotte, NC</td>
<td>NCS</td>
<td>May 4, 2004</td>
</tr>
<tr>
<td>Salt Lake City, UT</td>
<td>UTS</td>
<td>May 26, 2004</td>
</tr>
</tbody>
</table>

**NEW—TROUBLESHOOTING CONCRETE FLOOR PROBLEMS**

One-day seminar for contractors, design engineers, specifiers, government agencies, and material suppliers. Attendees will learn how to avoid or solve these problems: slow-drying concrete that delays flooring application, air quality issues related to water vapor emissions, conflicting results from moisture tests, flooring adhesive failures, joint curling, excessive cracking, delaminations or blisters, birdbaths or other drainage problems, and disputes about interpretation of flatness/levelness requirements. **Free industry-related documents available only from ACI, a $62.00 value, are included**

<table>
<thead>
<tr>
<th>Location</th>
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<tr>
<td>Boston, MA</td>
<td>MAS</td>
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<td>Seattle, WA</td>
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<td>Salt Lake City, UT</td>
<td>UTS</td>
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</tbody>
</table>

For additional information on this and other ACI seminars or to register online, visit [http://www.concreteseminars.com/](http://www.concreteseminars.com/) or call 248-848-3815.
NEW—SEISMIC AND WIND DESIGN CONSIDERATIONS FOR CONCRETE BUILDINGS

One-day seminar for structural engineers and designers. This seminar will cover earthquake- and wind-resistant design, response of concrete buildings to earthquake and wind forces, seismic and wind design requirements in the 2000 IBC and the impact of those provisions, and comparisons to previous editions of the model building codes. Applications of the seismic and wind provisions will be illustrated by designing and detailing typical structural members in areas of low, moderate, and high seismic risk on different types of soil. Complimentary publications include: Seismic and Wind Design of Concrete Buildings and Reference Manual. Free publications, a $110.00 value, are included.

<table>
<thead>
<tr>
<th>City</th>
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<tr>
<td>New York City, NY</td>
<td>NYS</td>
<td>April 8, 2004</td>
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<td>Nashville, TN</td>
<td>TNS</td>
<td>April 20, 2004</td>
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<tr>
<td>Denver, CO</td>
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<td>Washington, DC</td>
<td>DCS</td>
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<td>San Diego, CA</td>
<td>CAS</td>
<td>May 27, 2004</td>
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<tr>
<td>San Francisco, CA</td>
<td>SFS</td>
<td>June 10, 2004</td>
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</table>

REINFORCED CONCRETE DESIGN

Two-day seminar for designers and engineers. This unique seminar will cover the basic assumptions in design of reinforced concrete, how to design efficient and safe reinforced concrete structures, new design aids to increase your design efficiency, how to make profitable design decisions, practical applications of the ACI 318-02 Building Code, and how to avoid common design errors. Complimentary publications include: ACI 318-02, PCA EB070D, and Course Notes. Free publications, a $303.00 value, are included.

<table>
<thead>
<tr>
<th>City</th>
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<tr>
<td>Baltimore, MD</td>
<td>MDS</td>
<td>April 1 &amp; 2, 2004</td>
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<tr>
<td>Milwaukee, WI</td>
<td>WIS</td>
<td>April 15 &amp; 16, 2004</td>
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<td>Phoenix, AZ</td>
<td>AZS</td>
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<td>Oklahoma City, OK</td>
<td>OKS</td>
<td>May 18 &amp; 19, 2004</td>
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<td>San Antonio, TX</td>
<td>TXS</td>
<td>May 25 &amp; 26, 2004</td>
</tr>
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<td>Jacksonville, FL</td>
<td>FLS</td>
<td>June 8 &amp; 9, 2004</td>
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</tbody>
</table>

For additional information on this and other ACI seminars or to register online, visit [http://www.concreteseminars.com/](http://www.concreteseminars.com/) or call 248-848-3815.
BASICS OF CONCRETE MATERIALS AND TESTING

One-day seminar for engineers, designers, specifiers, government agencies, material suppliers, concrete producers, and contractors. This seminar will cover material selection and specifying of concrete and concrete materials, including cements, slag, fly ash, silica fume, blended cements, aggregates, and chemical admixtures. Also covered is an overview of various testing procedures for fresh concrete, the proper evaluation of test results, and what to do when test results are unacceptable. Complimentary publications include: ACI 301-99, EB001.14, FHWA-SA-97-105, and Course Notes. Free publications, a $199.00 value, are included.

Kansas City, MO MOS April 8, 2004
New Brunswick, NJ NJS April 28, 2004
Sacramento, CA CAS May 6, 2004
Albuquerque, NM NMS May 13, 2004
Atlanta, GA GAS May 20, 2004

For additional information on this and other ACI seminars or to register online, visit http://www.concreteseminars.com/ or call 248-848-3815.
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Woodward L. Vogt
Donald T. Ward
Charles A. Zalesiak

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Future ACI Conventions

Fall 2004
October 24-28, 2004
Concrete—A Century of Innovation
San Francisco Hilton & Towers
San Francisco, CA

Spring 2005
April 17-20, 2005
Concrete Soars, Spans and Supports New York & New Jersey
Hilton New York
New York, NY

Fall 2005
November 6-10, 2005
Spice up your Concrete
New Orleans Marriott
New Orleans, LA

American Concrete Institute
P.O. Box 9094
Farmington Hills, MI 48333-9094
Phone: 248-848-3700
Fax: 248-848-3701

Member Services
Phone: 248-848-3800
Fax: 248-848-3801

Thank you for attending the ACI Spring 2004 Centennial Convention. See you in San Francisco where the celebration continues!