

1904 2004



Concrete — A Century of Innovation

Spring 2004 Centennial Convention

Washington, D.C.

Sunday, March 14 - Thursday, March 18

Hilton Washington - 1919 Connecticut Avenue NW

Program
Book

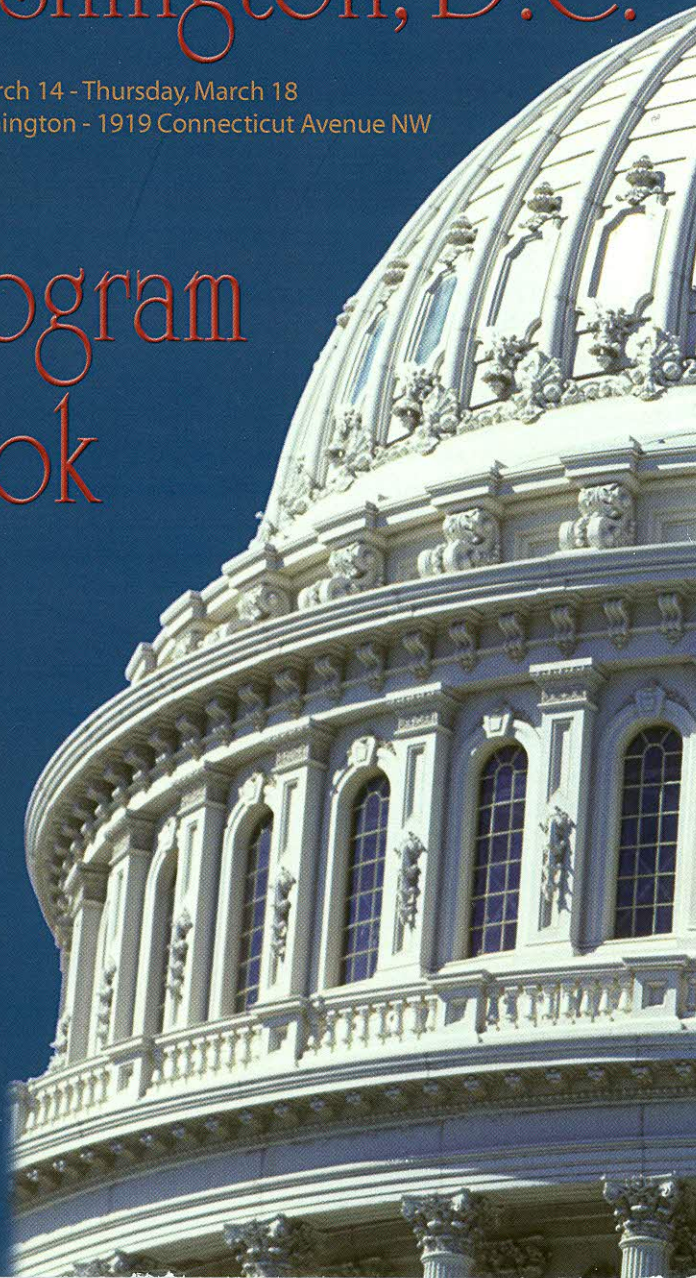




Table of Contents

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

ACI Board Committees & Chairs	Inside Back Cover
ACI Centennial Donors	10
ACI Convention Sponsors	12
ACI Fall 2004 Centennial Convention, San Francisco	16
ACI National Capital Chapter Convention Committee	18
ACI National Capital Board of Directors	17
ACI President's Welcome Letter	4
ACI Sustaining Members	6
Board of Direction	3
Centennial Conferences	15
Centennial Dinner	40
Certification	33
Contractor's Day Lunch	110
Contractor's Day Sessions	104
Convention Committee	Inside Back Cover
Demonstrations & Special Exhibits	32
Educational Seminar	129
Exhibitor Floor Plan	Between 24 & 25
Exhibitor Hours & Information	26
Spring 2004 Educational Seminar Information	131
Future ACI Conventions	Outside Back Cover
General Information	20
Guest Program	44
Hotel Map	Between 24 & 25
International Luncheon	123
International Symposium	25
Numeric Committee Listing	62
Opening Session & Awards Program	34
Program at a Glance	47
Publications	9
Registration Information & Hours	20
Special Events	34
Student Competitions	69
Student Luncheon	91
Technical & Educational Session Highlights	68
Washington D.C. Mayor Welcome Letter	5
Where's That Meeting Room	24

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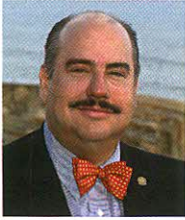
Executive Vice President

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. I 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!

A handwritten signature in black ink, appearing to read "J. Izquierdo-Encarnación".

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



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Systems



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Structural Services, Inc.



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Sustaining Members as of 2/6/04

1904



2004

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
Portland Cement Association
Sika Corporation

Gold

The Cagley Group
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Earth Tech
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Silver

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Supporting

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ACI Northern California/Western Nevada Chapter
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Centennial donors listing as of 2/11/04



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Supporting-continued

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Centennial donors listing as of 2/11/04



Convention Sponsors

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The Clark Construction Group, Inc.
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Master Builders Technologies
Miller & Long Concrete Construction
St. Lawrence Cement/Holcim, Inc.

Vice-Presidential

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Senatorial

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ACI Lebanon Chapter
ACI Louisiana Chapter
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ACI Northern California & Western Nevada Chapter
ACI Paris Chapter
ACI Virginia Chapter
Aggregate Industries
Baker Concrete Construction
The Bartley Corporation
Construction Technology Laboratories, Inc.
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Convention sponsor listing as of 2/16/04



Convention Sponsors

Congressional

ACI Arizona Chapter
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ACI Las Vegas Chapter
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Convention Sponsors

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1904 2004

Concrete — A Century of Innovation

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.



**ACI Centennial
Celebration**
Celebrate, Commemorate, Congratulate!

*Cleft Ridge Span - believed to be the first concrete bridge built in the United States
Photo Courtesy of F.M. Fuller*



ACI Fall 2004 Centennial Convention, San Francisco, CA

Concrete—A Century of Innovation

October 24-28, 2004

San Francisco Hilton, San Francisco, CA

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

Exhibit Hall

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

Tour Highlights include:

Sunday, October 24—San Francisco, Tastes of the City

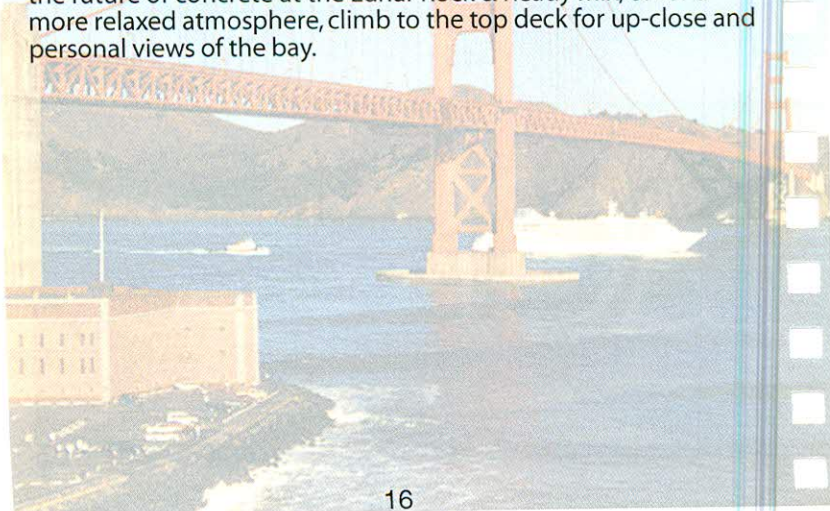
Monday, October 25—The Best of the Wine Country

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.



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Tracy Knott
ECS, Ltd

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

ACI National Capital Chapter
Convention Committee



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Centennial Materials

Thomas J. Pasko, Jr.

Host Chapter Desk

Ron Holsinger
AASHTO

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



General Information

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

Exhibit Hall

Educational Seminar Registration

Thursday	7:45 AM - 8:00 AM
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Lincoln E

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

Exhibit Hall

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

Exhibit Hall

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.

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

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



General Information

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/>. 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

Abbreviation

1919 Grill
 C326
 C327
 C328
 C329
 C330
 C331
 C332
 C333

Terrace Level

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

Abbreviation

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

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

Abbreviation

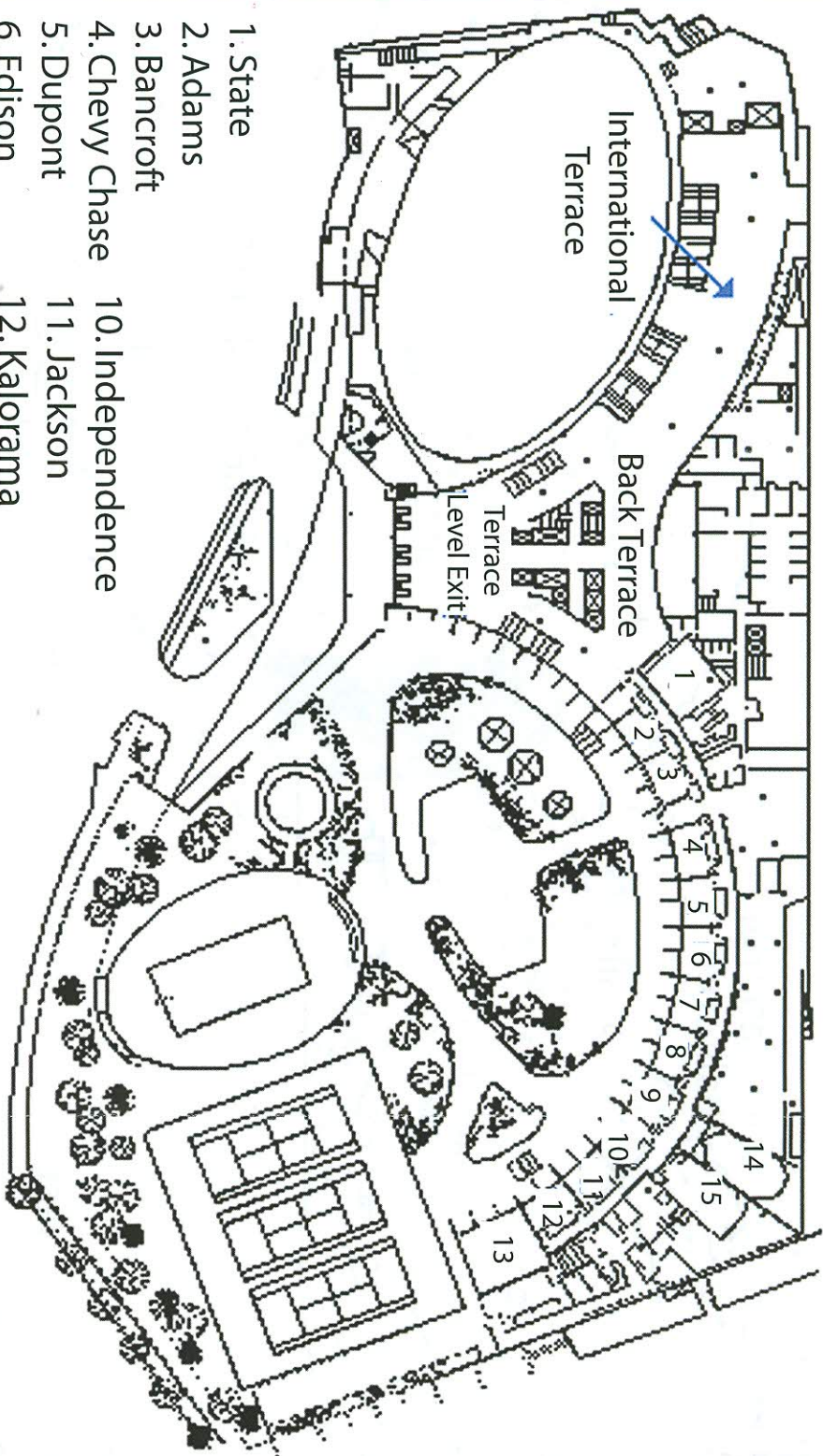
Cabinet
 Exhibit Hall
 Georgetown E
 Georgetown
 Georgetown W
 Hemisphere
 Intl Blrm
 Intl Blrm Ctr
 Intl Blrm E
 Intl Blrm W
 Jefferson E
 Jefferson W
 Lincoln E
 Lincoln W
 Military
 Monroe E
 Monroe W
 Thoroughbred

Solar Suites

1101-1st floor
 2101-2nd floor
 4101-4th floor

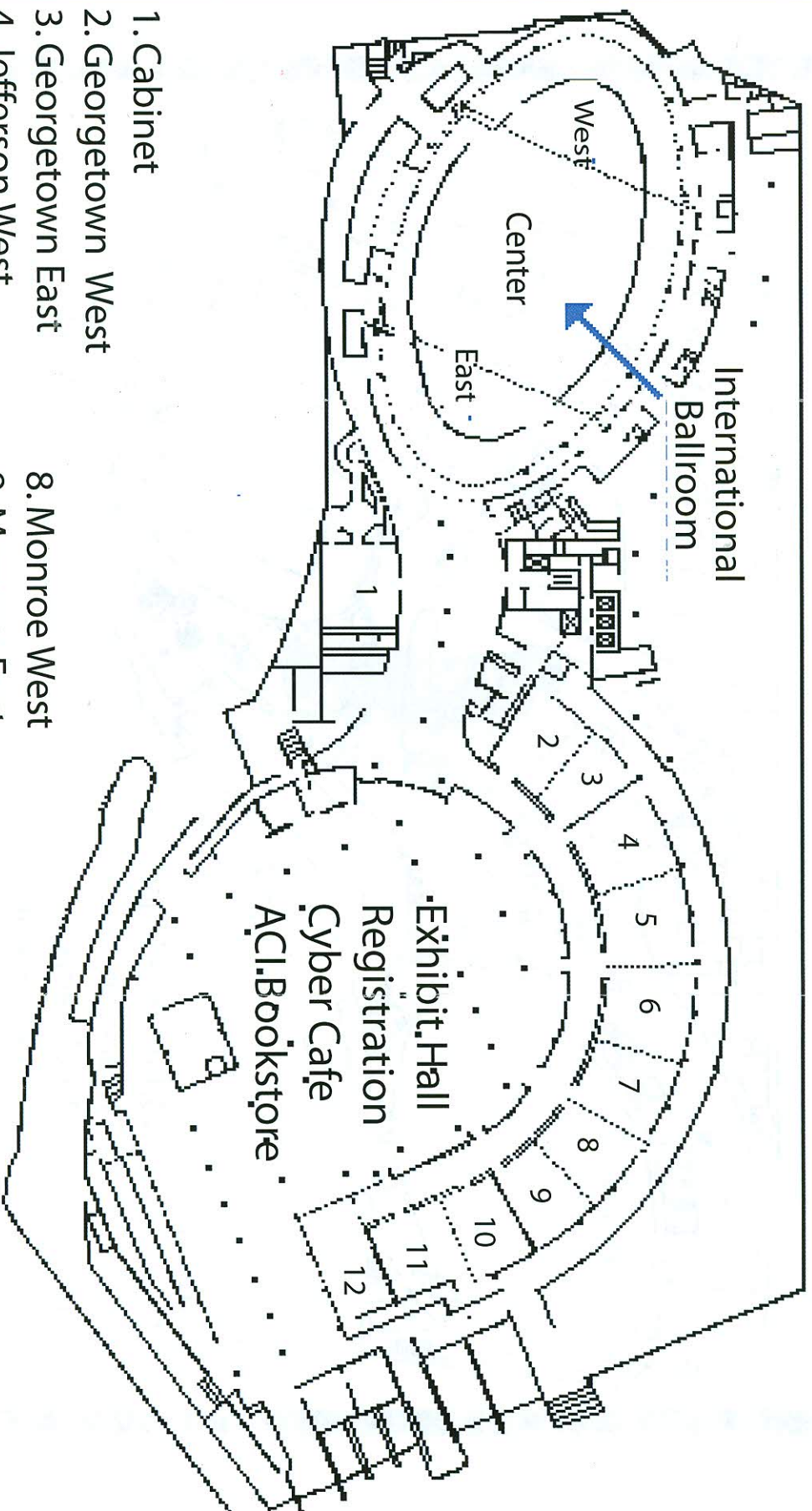
8101-8th floor
 9101-9th floor

Hilton Washington-Terrace Level

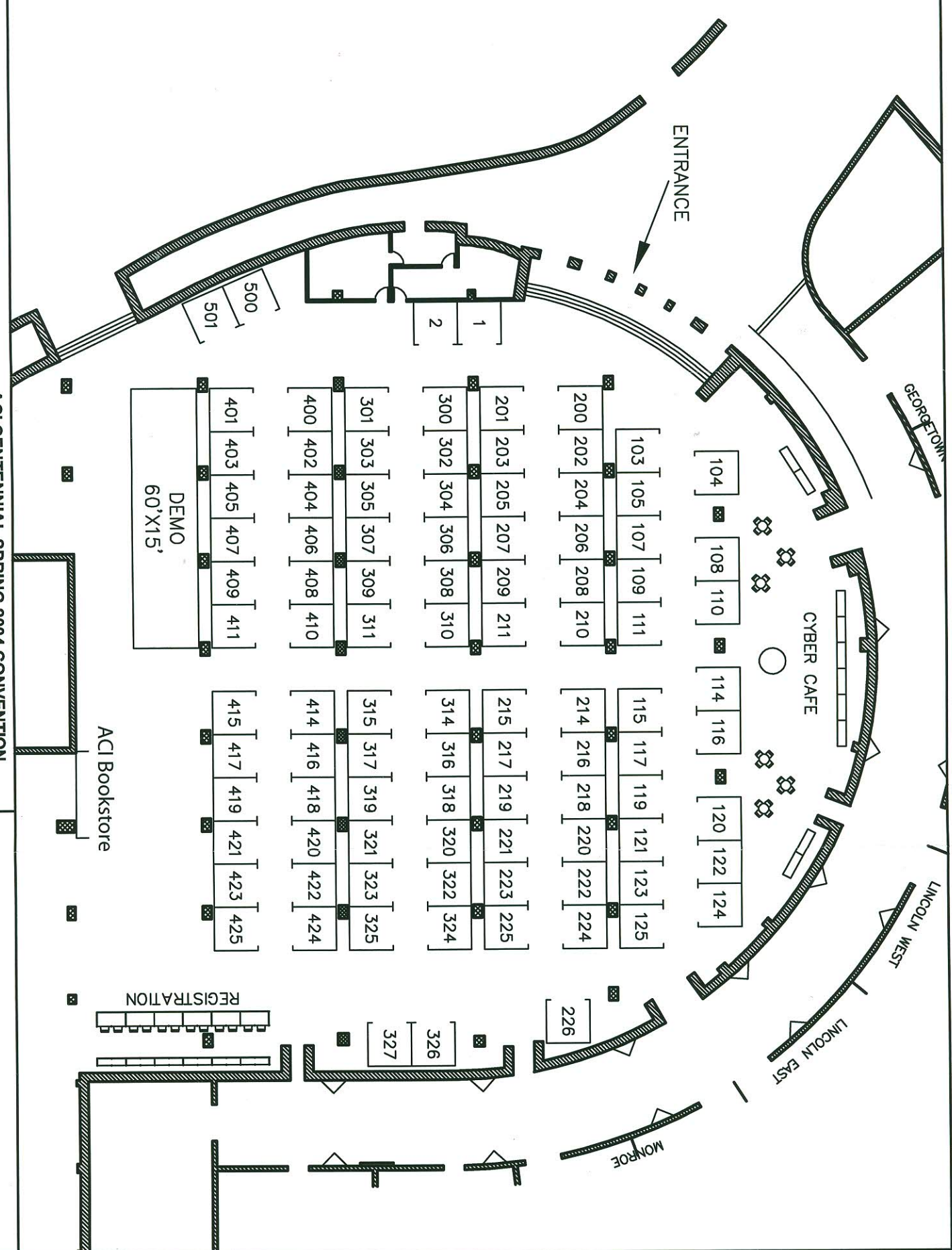


- 1. State
- 2. Adams
- 3. Bancroft
- 4. Chevy Chase
- 5. Dupont
- 6. Edison
- 7. Farragut
- 8. Grant
- 9. Hamilton
- 10. Independence
- 11. Jackson
- 12. Kalorama
- 13. Conservatory
- 14. Caucus
- 15. Map

Hilton Washington - Concourse Level



- 1. Cabinet
- 2. Georgetown West
- 3. Georgetown East
- 4. Jefferson West
- 5. Jefferson East
- 6. Lincoln West
- 7. Lincoln East
- 8. Monroe West
- 9. Monroe East
- 10. Military
- 11. Hemisphere
- 12. Thoroughbred



ACI CENTENNIAL SPRING 2004 CONVENTION
 MARCH 14-18, 2004
 WASHINGTON HILTON
 EXHIBIT HALL

GEORGETOWN

LINCOLN WEST

LINCOLN EAST

MONROE

Seventh International Symposium on Utilization of High-Strength/ High Performance Concrete

***June 20-24, 2005
Washington, D.C., USA***

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:

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

For more information go to:

**[http://www.concrete.org/events/conferences/
7th_International_Symposium.htm](http://www.concrete.org/events/conferences/7th_International_Symposium.htm)**

Image courtesy of Washington, D.C., Convention and
Tourism Corporation/lakeMcGuire.com



Exhibitors

The ACI National Capital Chapter along with the American Concrete Institute thank all exhibitors for making the Spring 2004 Centennial exhibits a success.

Exhibits

Exhibit Hall

Sponsored by the ACI National Capital Chapter

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

Exhibitor Name

Booth

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 Polycrrete 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

Exhibitor Name	Booth #
CMEC 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.	104
Consulting Engineers Corporation	210
CTL 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.	226
DECON USA Decon® Studrails® 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. Studrails® have been specified and successfully installed on thousands of projects worldwide. Introducing hairpin replacement Studrail®, Foundation Studrail® and the double headed Studrail®.	110
Eastern Waterproofing & Restoration	309
Engineering Consulting Services, Ltd. 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.	205
ERICO Pioneering the Next Century of Innovation 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 www.ericom.com .	402

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



Exhibitors

Exhibitor Name	Booth #
eTEC 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 www.go2etec.com .	203
FORTA 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 world-wide 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.	407
Fox Industries, Inc. 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.	206
Germann Instruments, Inc. 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.	300 & 302
Grace Construction Products Grace Construction Products manufactures 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.	108

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



Exhibitors

<u>Exhibitor Name</u>	<u>Booth #</u>
ISG Resources, Inc. 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.	324
James Instruments, Inc. 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.	105
Kip Incorp 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.	204
Lafarge North America Lafarge is a cement, slag cement, masonry cement, fly ash, and concrete manufacturer.	305 & 307
Lehigh Cement Company 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 speciality cements and construction materials. The White Cement Division of Lehigh and its affiliates supply white cement to customers throughout the United States and Canada.	400
Master Builders, Inc. 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.	327

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



Exhibitors

Exhibitor Name	Booth #
Myers Associates Myers Associates is an authorized dealer for Forney, Gilson, Humboldt, James Instruments, Soil Test, Deslauriers, etc. Myers Associates also sells concrete testing equipment.	304
NMCA	406
NRMCA	308
OSCODA PLASTICS, Inc.	404
Precast/Prestressed Concrete Institute 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 www.pci.org —it's a comprehensive "one-stop resource".	405
Pure Technologies, Ltd. 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.	301
Roadware, Inc. 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.	208
Sabnis, Inc. 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 www.Sabnis.com .	202

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



Exhibitors

Exhibitor Name

Booth #

Sika Corporation

103

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 www.sikausa.com.

Silica Fume Association

401

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.

St. Lawrence Cement

303

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.

Structural Group

209

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 www.structural.net.

TND Diana, North America

107

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.

Valcourt Building Services

111

Vector Corrosion Technologies

201

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.

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



Demonstrations & Special Exhibits

Demonstrations

Exhibit Hall

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-11AM; 2PM - 3PM

Tuesday 10AM-11AM; 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.

ACI CERTIFICATION

TRULY INTERNATIONAL

ACI-CERTIFIED PERSONNEL RESIDE IN 38 COUNTRIES



ARUBA



DOMINICAN REPUBLIC



LATVIA



SAUDI ARABIA



AUSTRALIA



ECUADOR



LEBANON



SOUTH AFRICA



BAHAMAS



EGYPT



MEXICO



ST. KITTS



BAHRAIN



GERMANY



MONGOLIA



SYRIA



BRAZIL



GUATEMALA



NEW ZEALAND



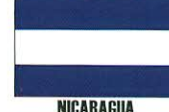
TAIWAN REPUBLIC OF CHINA



BRITISH VIRGIN ISLANDS



HONDURAS



NICARAGUA



UNITED ARAB EMIRATES



CANADA



IRAN



OMAN



UNITED KINGDOM



CAYMAN ISLANDS



ITALY



PEOPLE'S REPUBLIC OF CHINA



UNITED STATES OF AMERICA



CHILE



JORDAN



PHILIPPINES



VENEZUELA



KUWAIT



PORTUGAL





Special Events—Sunday, March 14

Student Egg Protection
Device & FRC Bowling
Ball Competitions
11:30 AM - 5:00 PM

Intl Brlm E

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

Intl Brlm 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



Awardees

Honorary Members

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

Fellows

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

Personal Awards

Arthur R. Anderson Award—Clifford L. Freyermuth
Roger H. Corbetta 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 Shydowski
Charles S. Whitney Award—Charles Pankow Builders, Ltd.



Awardees—continued

Young Member Award for Professional Achievement

Alejandro Durán-Herrera
Andrea J. Schokker

Delmar L. Bloem 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 D. 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



Special Events—Sunday, March 14

Opening Reception
Welcome to Washington D.C.!
6:30 PM - 7:30 PM

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.*



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

Jefferson W

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

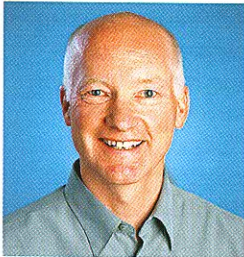
✓ Student Lunch

12:00 PM - 2:00 PM

\$28 per person

Intl Blrm E

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.



Kate Gleason
"First Lady of
Concrete"

✓ **Separate Fee Required**



Special Events—Monday, March 15

✓ Centennial Dinner

Jefferson

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



1948 Denver Convention: from left to right, Herbert J. Gilkey, Harvey Whipple, Messner, Frank H. Jackson, and Frank F. Van Atta

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?

Thoroughbred

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**

Special Events—Tuesday, March 16



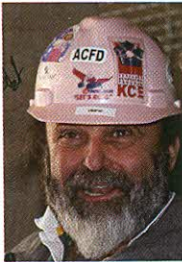
✓ Contractor's Day Lunch

Intl Blrm E

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



Special Events—Tuesday, March 16

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!



West Virginia Senator Nathan B. Scott and his wife with their automobile in front of the U.S. Capitol, circa 1905

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.



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



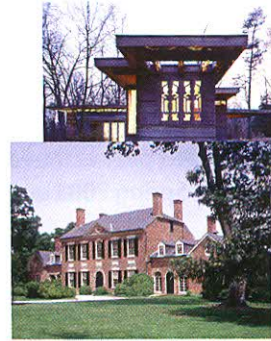
Guest Program—Sunday, March 14

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.



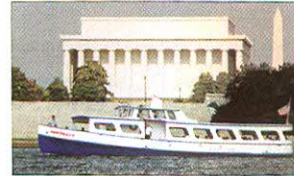
Photos courtesy of the Washington, D.C. Convention and Tourism Corporation

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

1919 Grill

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

Intl Terrace

3:30 PM– 5:00 PM

Join Mrs. Izquierdo-Encarnación to celebrate a part of ACI's history at the first Centennial Guest Tea.

All tours depart from the Terrace Level Exit.



Guest Program—Tuesday, March 16

Hillwood

8:30 AM – 12:00 PM

\$56 per person
(40 person minimum; 50 person maximum)



Photo courtesy of the Hillwood Museum & Gardens

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

12:00PM - 10:00PM

TAC-RG1	TAC Review Group 1 M1	C326
TAC-RG2	TAC Review Group 2 M1	C327
TAC-RG3	TAC Review Group 3 M1	C328
TAC-RG4	TAC Review Group 4 M1	Grant

6:00PM - 10:00PM

TAC	Technical Activities M1	Map
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Saturday, March 13

7:00AM - 6:00PM

TAC	Technical Activities M2	Map
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8:00AM - 5:00PM

EAC	Educational Activities M1	Chevy Chase
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7:30PM - 10:00PM

347-A	Formwork-Specification	Bancroft
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Sunday, March 14

7:00AM - 5:00PM

TAC	Technical Activities M3	Cabinet
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8:00AM - 1:00PM

TAC-RG1	TAC Review Group 1 M2	Cabinet
TAC-RG2	TAC Review Group 2 M2	1101
TAC-RG3	TAC Review Group 3 M2	2101
TAC-RG4	TAC Review Group 4 M2	8101

8:30AM - 10:00AM

IC-Pub	International Publications/Website	C327
201-C	Durability-Condition Survey Rpt	C330
232-A	Natural-Pozzolans	Hamilton
335	Composite-Hybrid	4101
341-A	Quake Res Brdgs-Columns	Jackson

8:30AM - 11:30AM

CLC	Construction Liaison	Bancroft
MEMC	Membership	C328
301-D	Spec-Arctl, LWC, Mass, SCC	C333
315-B	Detailing-Constructibility	Edison
350-C	Env Str-Reinf & Devel	C331
369	Seismic Rehab	Military
408	Bond & Development	Georgetown E
440-H	FRP-Reinforced Concrete	Georgetown W
441	Columns	Map
533	Precast Panels	Conservatory
546-B	Repair-Material Selection Guide	Monroe E
548-A	Polymers-Overlays	Thoroughbred



Program at a Glance

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

Sunday, March 14-continued

8:30AM - 12:30PM

347 Formwork Farragut

8:30AM - 1:00PM

301-C Spec-Mixtures, Place, Constr Kalorama

8:30AM - 5:00PM

355 Anchorage Grant

9:00AM - 11:00AM

IC-Conf International Conferences C326

10:00AM - 11:30AM

E701 Materials for Concrete Construction Chevy Chase
 121-A Quality Assurance-Task Group C330
 341-C Equake Res Brdgs-Retrofit 9101
 342 Bridge Evaluation C332
 444 Experimental Analysis C327

10:00AM - 12:00PM

506-G Shotcreting-Nozzleman Training Hamilton

10:00AM - 1:00PM

421 Reinf Slabs 4101
 445-A Shear & Torsn-Strut & Tie Jackson
 546-C Repair-Guide Hemisphere

11:30AM - 1:00PM

C630-T Transportation Inspector Bancroft
 DLTG Distance Learning Task Group C333
 E706 Repair Application Procedures Chevy Chase
 HTC Hot Topic 9101
 221 Aggregates Monroe E
 301-B Spec-Formwork & Rein C326
 341-B Equake Res Brdgs-Pier Walls C328
 345 Bridge Construction C327
 350-SC Env Str-Steering Comm C330
 546-A Repair-Underwater Military
 548-B Polymers-Sulfur Concrete C332
 549 Thin Reinforced Cementitious Map

Session

11:30AM - 1:00PM

Session Moderator Orientation Conservatory
 Workshop



Program at a Glance

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

Sunday, March 14-continued

11:30AM - 3:30PM

423 Prestressed Georgetown W

11:30AM - 5:00PM

Student Egg Protection Device and
FRC Bowling Ball Competitions Intl Blrm E

12:00PM - 1:30PM

201-A Durability - Sulfate Attack Hamilton

12:30PM - 2:00PM

440-E FRP-Prof Education Thoroughbred
440-L FRP-Durability Edison

1:00PM - 3:00PM

IC-Mem International Membership C326
TGCA Task Group for Centennial Activities C327
374 Seismic Design Hemisphere

1:30PM - 3:30PM

506-B Shotcreting-Fiber Reinforced Hamilton

2:00PM - 3:30PM

E903 Convention Training C329
IC-Cer International Certification 9101
309 Consolidation C328
325-D Pavements-Materials and Tests 1101
439-A Steel Reinf-Wire Kalorama
506-D Shotcreting-Swimming Pools C332
548-C Polymers-Str Design & Analysis 4101

2:00PM - 5:00PM

RCC Responsibility Chevy Chase
228 Nondestructive Testing Edison
301-A Spec- General Requirements 2101
301-E Spec-Prestressed C333
305 Hot Weather Georgetown E
315 Detailing Conservatory
336 Footings C331
341 Earthquake-Resistant Bridges Military
343 Bridge Design Monroe E
352 Joints Map
362-A Parking Str-Standard Farragut
370 Dynamic & Vibratory Effects C330
375 Design for Wind Loads Jackson
440-C FRP-State of Art Thoroughbred



Program at a Glance

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

Sunday, March 14-continued

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 Blrm 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

6:30AM - 8:15AM

Workshop for Technical Committee Chairs	Intl Blrm E
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7:00AM - 8:30AM

Speaker's Training Breakfast: Cutting Edge Presentation Technology	Conservatory
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8:00AM - 10:00AM

TGSD Task Group on Sustainability	Edison
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8:30AM - 10:00AM

E804 Edu Awd Nomination Comm	8101
118 Computers	2101
318 Building Code M1	Georgetown
346 CIP Pipe	1101
371 Water Towers	C332
506-A Shotcreting-Evaluation	Grant

8:30AM - 11:30AM

C610 Field Technician	Bancroft
E703 Concrete Construction Practices	Chevy Chase
MKTC Marketing	C326
207 Mass Concrete	Hamilton
209 Creep & Shrinkage	C333
237 Self-Consolidating Concrete	Military
311 Inspection	Kalorama
351-A Equip Fdns-Static Fdns	C328
440-F FRP-Repair-Strengthening	Cabinet
523 Cellular Concrete	C327
524 Plastering	C329
546 Repair	Hemisphere
548 Polymers	Monroe E

8:30AM - 12:30PM

364-A Rehabilitation-Evaluation	Farragut
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8:30AM - 1:00PM

302 Floor Construction	Map
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8:30AM - 2:00PM

373 Prestressed/Tendons	9101
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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 Systems, Part I Monroe W

★ Concrete Durability: 100-Year History, Part II Hemisphere

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

★ 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

10:00AM - 1:00PM

318-TG3 Code-TG-Slender Columns 2101

11:30AM - 1:00PM

E802 Teaching Methods & Edu Mats Cabinet
201-D Durability-Oversight Committee C326
207-A Mass Concrete -RCC in Dams Hamilton
447 Finite Element Analysis Kalorama
523-A Cellular-Autoclaved Aerated C327
544-B FRC-Education C328

Session

11:30AM - 1:00PM

Session Moderator Orientation Conservatory
Workshop

11:30AM - 1:30PM

124 Aesthetics Chevy Chase

12:00PM - 1:00PM

SDC SDC-Strategic Development Council Dupont

12:00PM - 2:00PM

✓ Student Lunch Intl Blrm 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

3:30PM - 5:00PM

SCO	Scholarship Council (ConRef) M2	C329
214	Strength Tests	Bancroft
440-G	FRP-Student	Edison
446	Fracture Mechanics	Farragut
544-F	FRC-Durability	Map

3:30PM - 6:30PM

211-H	Proportioning-Self Compacting	C327
445-B	Shear & Torsn-Seismic Shear	Jackson

4:00PM - 6:00PM

552	Cement Grouting	8101
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5:00PM - 6:00PM

	Women in ACI Reception	9101
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5:00PM - 6:30PM

236	Material Science	Farragut
350-J	Env Str-Education	C332
435	Deflection	Dupont
544-C	FRC-Testing	Caucus
555	Recycled	Conservatory

6:30PM - 11:00PM

	✓ Centennial Dinner	Jefferson
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Session

7:00PM - 10:00PM

	123 Forum: Research for the Future-Who Pays?	Thoroughbred
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✓ Separate fee required



Program at a Glance

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

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



Program at a Glance

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

Tuesday, March 16-continued

8:30AM - 1:00PM

318-B	Code-Reinf/Development	Thoroughbred
318-C	Code-Serviceability/Safety	Hemisphere
318-D	Code-Flexure & Axial Loads	Monroe E
318-G	Code-Precast Prestressed	Military

8:30AM - 6:30PM

332-TG2	Residential-Standard	C327
350-F	Env Str-Seismic	Kalorama

9:00AM - 12:00PM

Sessions

★	Contractor's Day: Mixed Concrete Topics—A Contemporary Collection	Lincoln W
	Washington D.C.: A Concrete City	Lincoln E
★	Innovations in Concrete Bridge Design & Construction—Historic Structures	Jefferson W
★	Celebrating a Century of Beautiful Concrete, Part I	Monroe W
	Fly Ash for ASR Mitigation—How Critical are the CaO Limits?	Jefferson E

9:30AM - 11:30AM

522	Pervious Concrete	Dupont
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10:00AM - 11:30AM

C630	Construction Inspector	Bancroft
223-C	Shr Compensating-Constr	C330
350-H	Env Str-Editorial	C328
503	Adhesives	Hamilton
515	Protective Systems	C332

10:00AM - 1:00PM

211-A	Proportioning - Editorial	C326
325-C	Pavements-RCC	Grant

10:30AM - 12:00PM

440-D	FRP-Research	Caucus
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★ Denotes theme session



Program at a Glance

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

Tuesday, March 16-continued

11:30AM - 1:00PM

Cryogenic Applications-Organizational Mtg	Edison
CRC Concrete Research Council	Cabinet
IJBRC 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
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11:30AM - 3:30PM

350-A Env Str-General & Concrete	Hamilton
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12:00PM - 1:00PM

201-B Durability-Sulfate in Soil	Chevy Chase
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12:00PM - 2:00PM

✓ Contractor's Day Lunch	Intl Blrm E
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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



Program at a Glance

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

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
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3:00PM - 5:00PM

CC	Convention Committee M2	Military
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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 & Torsn- SOA Torsion	Grant
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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



Program at a Glance

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

Wednesday, March 17

7:00AM - 10:00AM

TSC TAC Specifications Dupont

8:30AM - 10:00AM

Insulated Concrete Forms-Formational Meeting Edison
 PUBC Publications C326
 304 Measuring/Mix/Trans/Placing Conservatory

8:30AM - 11:30AM

E601 Seminar Oversight Committee Bancroft
 211 Proportioning Georgetown E
 308-B Curing-Specifications Grant
 318-S 318 Spanish Translation Farragut
 363 High-Strength Georgetown W
 445 Shear & Torsion Cabinet

8:30AM - 1:00PM

543 Piles Independence

8:30AM - 6:30PM

332 Residential Concrete Map
 350 Environmental Structures Monroe E

9:00AM - 12:00PM

Sessions

★ Concrete Realities in India Lincoln W
 Innovations in Concrete Bridge Design & Construction: Recent Developments Monroe W
 Cement Grouting: Innovative Materials for the 21st Century Jefferson W
 Sustainability—A New Issue for the Concrete Industry, Part I Lincoln E

10:00AM - 12:00PM

IC-SC Intl Conference Steering Committee Edison
 TRRC TAC Repair & Rehab Chevy Chase

10:30AM - 6:00PM

301 Specifications Hemisphere

★ Denotes theme session



Program at a Glance

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

Wednesday, March 17-continued

11:30AM - 1:00PM

308-A Curing-Guide Grant

12:00PM - 2:00PM

✓ International Luncheon Intl Blrm E

12:00PM - 6:00PM

ITG-4 ITG4-Seismic Applications C326

2:00PM - 4:00PM

ConRef Concrete Res & Educ Hamilton

2:00PM - 5:00PM

308 Curing Grant

2:00PM - 5:00PM

Sessions

Transport Properties of Concrete Lincoln W

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

★ Historical Perspective on Experimental Analysis of Concrete Structures Jefferson E

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

Thursday, March 18

7:45AM - 5:00PM

✓ ACI Educational Seminar: Portland Cement Concrete Overlays: State of the Technology Lincoln E

10:00AM - 5:00PM

BOD Board of Direction M2 Military

★ Denotes theme session

✓ Separate fee required



Numeric Committee Listing

(M)=Meeting (TG)=Task Group (WG)=Work Group

BOD	Board of Direction M2	Thur	10:00 AM-5:00 PM	Military
C610	Field Technician	Mon	8:30 AM-11:30 AM	Bancroft
C620	Laboratory Tech Cert	Tue	8:30 AM-10:00 AM	Bancroft
C630	Construction Inspector	Tue	10:00 AM-11:30 AM	Bancroft
C630-T	Transportation Inspector	Sun	11:30 AM-1:00 PM	Bancroft
C640	Craftsman	Tue	11:30 AM-2:00 PM	Bancroft
CAC	Chapter Activities	Tue	8:30 AM-11:30 AM	Conservatory
CC	Convention Committee M2	Tue	3:00 PM-5:00 PM	Military
CLC	Construction Liaison	Sun	8:30 AM-11:30 AM	Bancroft
ConRef	Concrete Res & Educ	Wed	2:00 PM-4:00 PM	Hamilton
CPC	Certification Programs	Tue	2:00 PM-5:00 PM	Bancroft
CRC	Concrete Research Council	Tue	11:30 AM-1:00 PM	Cabinet
DLTG	Distance Learning Task Group	Sun	11:30 AM-1:00 PM	C333
E601	Seminar Oversight Committee	Wed	8:30 AM-11:30 AM	Bancroft
E701	Materials for Concrete Const	Sun	10:00 AM-11:30 AM	Chevy Chase
E703	Concrete Const Practices	Mon	8:30 AM-11:30 AM	Chevy Chase
E706	Repair Application Procedures	Sun	11:30 AM-1:00 PM	Chevy Chase
E801	Student Activities	Sun	8:00 PM-10:00 PM	Hemisphere
E802	Teaching Methods & Edu Mats	Mon	11:30 AM-1:00 PM	Cabinet
E803	Faculty Network Coordinating	Mon	10:00 AM-11:30 AM	Grant
E804	Edu Awd Nomination Comm	Mon	8:30 AM-10:00 AM	8101
E903	Convention Training	Sun	2:00 PM-3:30 PM	C329
EAC	Educational Activities M1	Sat	8:00 AM-5:00 PM	Chevy Chase
EAC	Educational Activities M2	Tue	7:00 AM-12:00 PM	Chevy Chase
HTC	Hot Topic	Sun	11:30 AM-1:00 PM	9101
IC	International Committee	Sun	3:30 PM-5:00 PM	C329
IC-Cer	International Certification	Sun	2:00 PM-3:30 PM	9101
IC-Conf	International Conferences	Sun	9:00 AM-11:00 AM	C326
IC-Mem	International Membership	Sun	1:00 PM-3:00 PM	C326
IC-Pub	International Pubs/Website	Sun	8:30 AM-10:00 AM	C327
IC-SC	Intl Conference Steering Comm	Wed	10:00 AM-12:00 PM	Edison
IBRC	Int'l Joints & Bearings	Tue	11:30 AM-1:00 PM	Farragut
INT ADV	Internet Advisory	Mon	2:00 PM-3:30 PM	Bancroft
ITG-4	ITG4-Seismic Applications	Wed	12:00 PM-6:00 PM	C326
ITG-5	ITG5 Validation Testing	Sun	3:30 PM-5:00 PM	Hamilton
MEMC	Membership	Sun	8:30 AM-11:30 AM	C328
MKTC	Marketing	Mon	8:30 AM-11:30 AM	C326
PUBC	Publications	Wed	8:30 AM-10:00 AM	C326
RCC	Responsibility	Sun	2:00 PM-5:00 PM	Chevy Chase
SCO	Scholarship Coun(ConRef) M2	Mon	3:30 PM-5:00 PM	C329
SDC	SDC-Strategic Develop Council	Mon	12:00 PM-1:00 PM	Dupont



Numeric Committee Listing

(M)=Meeting (TG)=Task Group (WG)=Work Group

TAC	Technical Activities M1	Fri	6:00 PM-10:00 PM	Map
TAC	Technical Activities M2	Sat	7:00 AM-6:00 PM	Map
TAC	Technical Activities M3	Sun	7:00 AM-5:00PM	Cabinet
TAC-RG1	TAC Review Group 1 M1	Fri	12:00 PM-10:00 PM	C326
TAC-RG1	TAC Review Group 1 M2	Sun	8:00 AM-1:00 PM	Cabinet
TAC-RG2	TAC Review Group 2 M1	Fri	12:00 PM-10:00 PM	C327
TAC-RG2	TAC Review Group 2 M2	Sun	8:00 AM-1:00 PM	1101
TAC-RG3	TAC Review Group 3 M1	Fri	12:00 PM-10:00 PM	C328
TAC-RG3	TAC Review Group 3 M2	Sun	8:00 AM-1:00 PM	2101
TAC-RG4	TAC Review Group 4 M1	Fri	12:00 PM-10:00 PM	Grant
TAC-RG4	TAC Review Group 4 M2	Sun	8:00 AM-1:00 PM	8101
TGCA	Task Group for Cent Activities	Sun	1:00 PM-3:00 PM	C327
TGSD	Task Group on Sustainability	Mon	8:00 AM-10:00 AM	Edison
TMC	TAC Metrication	Tue	7:00 AM-8:30 AM	Dupont
TRRC	TAC Repair & Rehab	Wed	10:00AM-12:00 PM	Chevy Chase
TSC	TAC Specifications	Wed	7:00 AM-10:00 AM	Dupont
TTTC	TAC Technology Transfer	Tue	7:00 AM-9:00 AM	Grant
116	Terminology & Notation	Tue	3:30 PM-5:00 PM	C328
117	Tolerances	Tue	8:30 AM-11:30 AM	C329
118	Computers	Mon	8:30 AM-10:00 AM	2101
120	History	Tue	2:00 PM-3:30 PM	Chevy Chase
121	Quality Assurance	Sun	3:00 PM-4:30 PM	Hemisphere
121-A	Quality Assurance-Task Group	Sun	10:00 AM-11:30 AM	C330
122	Energy Conservation	Mon	10:00 AM-11:30 AM	C332
123	Research	Sun	3:30 PM-5:00 PM	C326
124	Aesthetics	Mon	11:30 AM-1:30 PM	Chevy Chase
201	Durability	Tue	8:30 AM-11:30 AM	Georgetown E
201-A	Durability-Sulfate Attack	Sun	12:00 PM-1:30 PM	Hamilton
201-B	Durability-Sulfate in Soil	Tue	12:00 PM-1:00 PM	Chevy Chase
201-C	Durability-Condition Survey Rpt	Sun	8:30 AM-10:00 AM	C330
201-D	Durability-Oversight Comm	Mon	11:30 AM-1:00 PM	C326
207	Mass Concrete	Mon	8:30 AM-11:30 AM	Hamilton
207-A	Mass Concrete-RCC in Dams	Mon	11:30 AM-1:00 PM	Hamilton
209	Creep & Shrinkage	Mon	8:30 AM-11:30 AM	C333
211	Proportioning	Wed	8:30 AM-11:30 AM	Georgetown E
211-A	Proportioning-Editorial	Tue	10:00 AM-1:00 PM	C326
211-B	Proportioning-Lightweight	Tue	2:00 PM-3:30 PM	Farragut
211-C	Proportioning-No Slump	Tue	8:30 AM-10:00 AM	C328
211-D	Proportioning-High Strength	Tue	2:00 PM-5:00 PM	C330
211-E	Proportioning-Evaluation	Tue	11:30 AM-1:00 PM	C329
211-H	Proportioning-Self Compacting	Mon	3:30 PM-6:30 PM	C327
212	Chemical Admixtures	Mon	2:00 PM-5:00 PM	Hamilton
213	Lightweight	Tue	11:30 AM-1:00 PM	C328



Numeric Committee Listing

(M)=Meeting (TG)=Task Group (WG)=Work Group

213-B	Lightweight-By Product Agg	Tue	8:30 AM-10:00 AM	1101
214	Strength Tests	Mon	3:30 PM-5:00 PM	Bancroft
215	Fatigue	Sun	3:30 PM-5:00 PM	C332
216	Fire Resistance	Mon	10:00 AM-12:30 PM	Edison
221	Aggregates	Sun	11:30 AM-1:00 PM	Monroe E
222	Corrosion	Tue	2:00 PM-5:00 PM	Map
223	Shrinkage-Compensating	Tue	2:00 PM-5:00 PM	Caucus
223-B	Shr Compensating-Field Meas	Tue	8:30 AM-10:00 AM	C330
223-C	Shr Compensating-Constr	Tue	10:00 AM-11:30 AM	C330
224	Cracking	Sun	3:30 PM-5:00 PM	Georgetown W
225	Hydraulic Cements	Mon	2:00 PM-3:30 PM	Farragut
228	Nondestructive Testing	Sun	2:00 PM-5:00 PM	Edison
229	Controlled Low-Strength	Tue	2:00 PM-5:00 PM	C329
230	Soil Cement	Tue	8:30 AM-10:00 AM	C326
231	Early-Age	Mon	2:00 PM-5:00 PM	1101
232	Fly Ash & Natural Pozzolans	Mon	2:00 PM-5:00 PM	Conservatory
232-A	Natural - Pozzolans	Sun	8:30 AM-10:00 AM	Hamilton
233	Ground Slag	Tue	2:00 PM-5:00 PM	Edison
234	Silica Fume	Tue	2:00 PM-5:00 PM	C326
235	Knowledge-Based Systems	Tue	8:30 AM-11:30 AM	C333
236	Material Science	Mon	5:00 PM-6:30 PM	Farragut
236-A	Material Science-Workability	Mon	2:00 PM-5:00 PM	2101
237	Self-Consolidating Concrete	Mon	8:30 AM-11:30 AM	Military
301	Specifications	Wed	10:30 AM-6:00 PM	Hemisphere
301-A	Spec-General Requirements	Sun	2:00 PM-5:00 PM	2101
301-B	Spec-Formwork & Rein	Sun	11:30 AM-1:00 PM	C326
301-C	Spec-Mixtures, Place, Constr	Sun	8:30 AM-1:00 PM	Kalorama
301-D	Spec-Arctl, LWC, Mass, SCC	Sun	8:30 AM-11:30 AM	C333
301-E	Spec-Prestressed	Sun	2:00 PM-5:00 PM	C333
302	Floor Construction	Mon	8:30 AM-1:00 PM	Map
304	Measuring/Mix/Trans/Placing	Wed	8:30 AM-10:00 AM	Conservatory
305	Hot Weather	Sun	2:00 PM-5:00 PM	Georgetown E
306	Cold Weather	Tue	8:30 AM-11:30 AM	Edison
307	Chimneys	Mon	8:30 AM-3:30 PM	Jackson
308	Curing	Wed	2:00 PM-5:00 PM	Grant
308-A	Curing-Guide	Wed	11:30 AM-1:00 PM	Grant
308-B	Curing-Specifications	Wed	8:30 AM-11:30 AM	Grant
308-C	Curing-Accelerated	Tue	3:30 PM-5:00 PM	Farragut
308-D	Curing-HPC	Tue	5:00 PM-6:30 PM	Farragut
309	Consolidation	Sun	2:00 PM-3:30 PM	C328
311	Inspection	Mon	8:30 AM-11:30 AM	Kalorama
313	Bins & Silos	Mon	8:30 AM-5:30 PM	Independence
315	Detailing	Sun	2:00 PM-5:00 PM	Conservatory
315-B	Detailing-Constructibility	Sun	8:30 AM-11:30 AM	Edison
318	Building Code M1	Mon	8:30 AM-10:00 AM	Georgetown
318	Building Code M2	Tue	2:00 PM-6:30 PM	Georgetown



Numeric Committee Listing

	(M)=Meeting	(TG)=Task Group	(WG)=Work Group	
318-A	Code-General Concrete Constr	Mon	2:00 PM-6:30 PM	Military
318-B	Code-Reinf/Development	Tue	8:30 AM-1:00 PM	Thoroughbred
318-C	Code-Serviceability/Safety	Tue	8:30 AM-1:00 PM	Hemisphere
318-D	Code-Flexure & Axial Loads	Tue	8:30 AM-1:00 PM	Monroe E
318-E	Code-Shear & Torsion	Mon	2:00 PM-6:30 PM	Grant
318-F	New Mat Products & Ideas	Mon	2:00 PM-6:30 PM	Monroe E
318-G	Code-Precast Prestressed	Tue	8:30 AM-1:00 PM	Military
318-H	Code-Seismic Provisions	Mon	2:00 PM-6:30 PM	Chevy Chase
318-S	318 Spanish Translation	Wed	8:30 AM-11:30 AM	Farragut
318-TG1	Code-TG-Min Torsional Reinf	Mon	10:00 AM-11:30 AM	1101
318-TG2	Code-TG-Notation & Terminology	Mon	10:00 AM-11:30 AM	8101
318-TG3	Code-TG-Slender Columns	Mon	10:00 AM-1:00 PM	2101
325	Pavements	Tue	5:00 PM-6:30 PM	Map
325-A	Pavements-Design	Tue	8:30 AM-11:30 AM	Map
325-B	Pavements-Overlays	Tue	11:30 AM-1:00 PM	Map
325-C	Pavements-RCC	Tue	10:00 AM-1:00 PM	Grant
325-D	Pavements-Materials and Tests	Sun	2:00 PM-3:30 PM	1101
330	Parking Lots & Site Paving	Tue	2:00 PM-5:00 PM	Jackson
332	Residential Concrete	Wed	8:30 AM-6:30 PM	Map
332-TG2	Residential-Standard	Tue	8:30 AM-6:30 PM	C327
332-TG3	Residential-Education	Mon	2:00 PM-3:30 PM	C329
335	Composite-Hybrid	Sun	8:30 AM-10:00 AM	4101
336	Footings	Sun	2:00 PM-5:00 PM	C331
340	Design Aids	Tue	1:00 PM-4:00 PM	C331
341	Earthquake-Resistant Bridges	Sun	2:00 PM-5:00 PM	Military
341-A	Equake Res Brdgs-Columns	Sun	8:30 AM-10:00 AM	Jackson
341-B	Equake Res Brdgs-Pier Walls	Sun	11:30 AM-1:00 PM	C328
341-C	Equake Res Brdgs-Retrofit	Sun	10:00 AM-11:30 AM	9101
342	Bridge Evaluation	Sun	10:00 AM-11:30 AM	C332
343	Bridge Design	Sun	2:00 PM-5:00 PM	Monroe E
345	Bridge Construction	Sun	11:30 AM-1:00 PM	C327
346	CIP Pipe	Mon	8:30 AM-10:00 AM	1101
347	Formwork	Sun	8:30 AM-12:30 PM	Farragut
347-A	Formwork-Specification	Sat	7:30 PM-10:00 PM	Bancroft
348	Safety	Sun	3:30 PM-5:00 PM	C328
349	Nuclear Structures	Tue	2:00 PM-5:00 PM	Independence
349-A	Nuclear Str-Materials	Tue	8:30 AM-11:30 AM	Independence
349-B	Nuclear Str-Design	Tue	8:30 AM-11:30 AM	Jackson
349-C	Nuclear Str-Anchorage	Mon	8:30 AM-5:00 PM	Caucus
350	Environmental Structures	Wed	8:30 AM-6:30 PM	Monroe E
350-A	Env Str-General & Concrete	Tue	11:30 AM-3:30 PM	Hamilton
350-B	Env Str-Durability	Mon	2:00 PM-6:30 PM	C333
350-C	Env Str-Reinf & Devel	Sun	8:30 AM-11:30 AM	C331
350-D	Env Str-Structural	Mon	8:30 AM-6:30 PM	C330
350-E	Env Str-Precast/Prestressed	Mon	8:30 AM-6:30 PM	C331



Numeric Committee Listing

(M)=Meeting (TG)=Task Group (WG)=Work Group

350-F	Env Str-Seismic	Tue	8:30 AM-6:30 PM	Kalorama
350-G&K	Env Str-Tight Testing & Hazd Mat	Mon	2:00 PM-5:00 PM	C332
350-H	Env Str-Editorial	Tue	10:00AM-11:30AM	C328
350-J	Env Str-Education	Mon	5:00 PM-6:30 PM	C332
350-L	Env Str-Specification	Tue	3:30 PM-6:30 PM	Hamilton
350-SC	Env Str-Steering Comm	Sun	11:30 AM-1:00 PM	C330
351	Equip Foundations	Mon	2:00 PM-5:00 PM	C328
351-A	Equip Fdns-Static Fdns	Mon	8:30 AM-11:30 AM	C328
352	Joints	Sun	2:00 PM-5:00 PM	Map
355	Anchorage	Sun	8:30 AM-5:00 PM	Grant
357	Offshore & Marine	Tue	8:30 AM-11:30 AM	C331
360	Slabs on Ground	Mon	2:00 PM-6:30 PM	Cabinet
362	Parking Structures	Mon	1:00 PM-5:00 PM	C326
362-A	Parking Str-Standard	Sun	2:00 PM-5:00 PM	Farragut
363	High-Strength	Wed	8:30 AM-11:30 AM	GeorgetownW
363-A	High Strength-State of Art Report	Tue	3:30 PM-5:00 PM	Chevy Chase
364	Rehabilitation	Tue	2:00 PM-5:00 PM	Hemisphere
364-A	Rehabilitation-Evaluation	Mon	8:30 AM-12:30 PM	Farragut
365	Service Life	Tue	11:30 AM-1:00 PM	Conservatory
365-A	Standard Model Development	Mon	2:00 PM-4:00 PM	8101
369	Seismic Rehab	Sun	8:30 AM-11:30 AM	Military
370	Dynamic & Vibratory Effects	Sun	2:00 PM-5:00 PM	C330
371	Water Towers	Mon	8:30 AM-10:00 AM	C332
373	Prestressed/Tendons	Mon	8:30 AM-2:00 PM	9101
374	Seismic Design	Sun	1:00 PM-3:00 PM	Hemisphere
375	Design for Wind Loads	Sun	2:00 PM-5:00 PM	Jackson
408	Bond & Development	Sun	8:30 AM-11:30 AM	Georgetown E
421	Reinf Slabs	Sun	10:00 AM-1:00 PM	4101
423	Prestressed	Sun	11:30 AM-3:30 PM	Georgetown W
435	Deflection	Mon	5:00 PM-6:30 PM	Dupont
437	Strength Evaluation	Mon	2:00 PM-5:00 PM	Dupont
439	Steel Reinforcement	Tue	2:00 PM-5:00 PM	Cabinet
439-A	Steel Reinf-Wire	Sun	2:00 PM-3:30 PM	Kalorama
439-B	Steel Reinf-Mechanical Splices	Sun	3:30 PM-5:00 PM	Kalorama
440	Fiber Reinforced Polymer	Tue	1:00 PM-4:00 PM	Monroe E
440-C	FRP-State of Art	Sun	2:00 PM-5:00 PM	Thoroughbred
440-D	FRP-Research	Tue	10:30 AM-12:00 PM	Caucus
440-E	FRP-Prof Education	Sun	12:30 PM-2:00 PM	Thoroughbred
440-F	FRP-Repair-Strengthening	Mon	8:30 AM-11:30 AM	Cabinet
440-G	FRP-Student	Mon	3:30 PM-5:00 PM	Edison
440-H	FRP-Reinforced Concrete	Sun	8:30 AM-11:30 AM	Georgetown W
440-I	FRP- Prestressed Concrete	Tue	8:30 AM-10:30 AM	Caucus
440-J	FRP Stay-in-Place Formwork	Mon	2:30 PM-4:30 PM	Georgetown W
440-K	FRP-Material Characteristics	Mon	12:30 PM-2:30 PM	Edison
440-L	FRP-Durability	Sun	12:30 PM-2:00 PM	Edison
440-M	FRP-Repair of Masonry Str	Tue	8:30 AM-10:30 AM	Cabinet
441	Columns	Sun	8:30 AM-11:30 AM	Map
444	Experimental Analysis	Sun	10:00 AM-11:30 AM	C327



Numeric Committee Listing

	(M)=Meeting	(TG)=Task Group	(WG)=Work Group	
445	Shear & Torsion	Wed	8:30 AM-11:30 AM	Cabinet
445-A	Shear & Torsn-Strut & Tie	Sun	10:00 AM-1:00 PM	Jackson
445-B	Shear & Torsn-Seismic Shear	Mon	3:30 PM-6:30 PM	Jackson
445-C	Shear & Torsn-Punching Shear	Sun	3:00 PM-5:00 PM	C327
445-E	Shear & Torsn-SOA Torsion	Tue	3:30 PM-5:30 PM	Grant
446	Fracture Mechanics	Mon	3:30 PM-5:00 PM	Farragut
447	Finite Element Analysis	Mon	11:30 AM-1:00 PM	Kalorama
503	Adhesives	Tue	10:00 AM-11:30 AM	Hamilton
504-554	Joint Sealants & Bearing Sys	Tue	8:30 AM-11:30 AM	Farragut
506	Shotcreting	Tue	8:30 AM-10:30 AM	Georgetown W
506-A	Shotcreting-Evaluation	Mon	8:30 AM-10:00 AM	Grant
506-B	Shotcreting-Fiber Reinforced	Sun	1:30 PM-3:30 PM	Hamilton
506-C	Shotcreting-Guide	Mon	1:00 PM-2:30 PM	4101
506-D	Shotcreting-Swimming Pools	Sun	2:00 PM-3:30 PM	C332
506-E	Shotcreting-Specifications	Mon	10:00 AM-12:00 PM	4101
506-F	Shotcreting-Underground	Mon	2:30 PM-5:00 PM	4101
506-G	Shotcreting-Nozzleman Training	Sun	10:00 AM-12:00 PM	Hamilton
515	Protective Systems	Tue	10:00 AM-11:30 AM	C332
522	Pervious Concrete	Tue	9:30 AM-11:30 AM	Dupont
523	Cellular Concrete	Mon	8:30 AM-11:30 AM	C327
523-A	Cellular-Autoclaved Aerated	Mon	11:30 AM-1:00 PM	C327
524	Plastering	Mon	8:30 AM-11:30 AM	C329
533	Precast Panels	Sun	8:30 AM-11:30 AM	Conservatory
543	Piles	Wed	8:30 AM-1:00 PM	Independence
544	Fiber Reinforced Concrete	Tue	3:30 PM-6:30 PM	Thoroughbred
544-A	FRC-Production & Applications	Tue	8:30 AM-10:00 AM	C332
544-B	FRC-Education	Mon	11:30 AM-1:00 PM	C328
544-C	FRC-Testing	Mon	5:00 PM-6:30 PM	Caucus
544-D	FRC-Structural Uses	Tue	2:00 PM-3:30 PM	Conservatory
544-E	FRC-Mechanical Properties	Mon	2:00 PM-3:30 PM	Map
544-F	FRC-Durability	Mon	3:30 PM-5:00 PM	Map
546	Repair	Mon	8:30 AM-11:30 AM	Hemisphere
546-A	Repair-Underwater	Sun	11:30 AM-1:00 PM	Military
546-B	Repair-Material Selection Guide	Sun	8:30 AM-11:30 AM	Monroe E
546-C	Repair-Guide	Sun	10:00 AM-1:00 PM	Hemisphere
548	Polymers	Mon	8:30 AM-11:30 AM	Monroe E
548-A	Polymers-Overlays	Sun	8:30 AM-11:30 AM	Thoroughbred
548-B	Polymers-Sulfur Concrete	Sun	11:30 AM-1:00 PM	C332
548-C	Polymers-Str Design & Analysis	Sun	2:00 PM-3:30 PM	4101
548-TG	Polymers-Task Grp Modified Doc	Sun	3:30 PM-5:00 PM	4101
549	Thin Reinforced Cementitious	Sun	11:30 AM-1:00 PM	Map
550	Precast Structures	Mon	2:00 PM-5:00 PM	Kalorama
552	Cement Grouting	Mon	4:00 PM-6:00 PM	8101
555	Recycled	Mon	5:00 PM-6:30 PM	Conservatory
	Cryogenic Applications - Organizational Mtg	Tue	11:30 AM-1:00 PM	Edison
	Insulated Concrete Forms-Formational Mtg	Wed	8:30 AM-10:00 AM	Edison



Sunday, March 14

11:30 AM - 1:00 PM

Session Moderator Orientation Workshop

Conservatory

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.

Sunday, March 14

11:30 AM - 5:00 PM



Student Egg Protection Device & FRC Bowling Ball Competitions Intl Brlm E

Sponsored by Committee E801 and the
ACI National Capital Chapter

Program Coordinators: Abdeldjelil 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**
*Abdeldjelil 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-*continued*

Research Strategies for the Bureau of Reclamation Aging Concrete Infrastructure **4:00 PM**

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 **4:30 PM**

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



Sunday, March 14

2:00 PM - 5:00 PM

Get Involved in Concrete Education

Lincoln W

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** **4:00 PM**

Robert L. Eller, Professor, Concrete Technology Program, Alpena
Community College, Alpena, MI

**Concrete in Education—ACI and PCA
Perspectives** **4:30 PM**

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



Sunday, March 14

2:00 PM - 5:00 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 *Idefonso 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:
100-Year History, Part I

Jefferson E

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 2:00 PM

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

Durability: What Has Changed in the Last 100 Years 2:05 PM

Joseph F. Lamond, Consulting Engineer, Jeffersonton, VA

History of Development of Knowledge on Concrete Durability 2:30 PM

R. Doug Hooton, Professor, Department of Civil Engineering, University of Toronto, Toronto, ON, Canada; and *James S. Pierce*, U.S. Bureau of Reclamation

A New Approach by Which Cyclic Freezing Can Damage Concrete—The Erlin/Mather Effect A Concept 3:00 PM

Bernard Erlin, President, The Erlin Company, Latrobe, PA

History of Air Entrainment in Concrete—The Past and the Future 3:30 PM

Mohammed A. Nagi, Project Manager, Construction Technology Laboratories, Inc., Skokie, IL

Durability—The Forgotten and Neglected Factors 4:00 PM

James M. Shilstone, Sr., President, The Shilstone Companies, Inc., Dallas, TX

Alkali-Silica Reaction—A Historical Perspective 4:30 PM

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

★ Denotes theme session



Sunday, March 14

2:00 PM - 5:00 PM

★ Predicting Service Life– Jefferson W
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



Henry L. Kennedy—1953 Fall Convention

for their contributions to ACI and the concrete community. All convention attendees are invited to attend this event.



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–
Reducing the Cost of Tolerance
Incompatibility Issues

Jefferson W

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**



Monday, March 15

6:30 AM - 8:15 AM

Workshop for Technical Committee Chairs

Intl Blrm E

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

Conservatory

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 continental breakfast will be served.



Monday, March 15

9:00 AM - 12:00 PM

Research in Progress

Lincoln E

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

Introduction **9:00 AM**
Kolluru V. Subramaniam, Assistant Professor, Department of Civil Engineering, City College of New York, New York, NY

Lamb Wave Basis for Impact-Echo Method Analysis **9:01 AM**
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.

Durability, Permeability, and Strength of Concrete Mixtures Containing Ground Granulated Blast Furnace Slag and Fly Ash **9:15 AM**
Natalie Peterson, Graduate Assistant, Department of Civil Engineering, University of Arkansas, Fayetteville, AR; and *W. Micah Hale*, University of Arkansas

Creep and Shrinkage in High Performance/ High Strength Concrete **9:30 AM**
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

Effect of Shrinkage-Reducing Admixtures on the Losses of Prestressing Force **9:45 AM**
Salah Altoubat, Assistant Professor, University of Sharjah, UAE; *Samer Barakat*, University of Sharjah; and *Akthem Almanaseer*, San Jose State University

Monday, March 15

9:00 AM - 12:00 PM



Research in Progress-continued

- Sequestering Co₂ Through Early Age Curing of Concrete** **10:00 AM**
Yixin Shao, Assistant Professor, Department of Civil Engineering, McGill University, Montreal, QC, Canada; and *Caijun Shi*, CJS Technology, Inc.
- Effect of Atmospheric Conditions on Development of Thermal Stresses in Curing Concrete Bridge Slabs** **10:15 AM**
Gary S. Wojcik, Research Assistant, National Institute of Standards and Technology, Gaithersburg, MD; and *Erik Schlangen*, Intron
- Bonded Overlays–Summary of a RILEM TC** **10:30 AM**
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 with Plain Reinforcement** **10:45 AM**
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 Beams Strengthened with FRP Laminates** **11:00 AM**
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 Bridge Girders** **11:15 AM**
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 Concrete Structures using Externally Bonded FRP Reinforcement** **11:30 AM**
Nemkumar Banthia, Professor, Department of Civil Engineering, University of British Columbia, Vancouver, BC, Canada; and *M. Soleimani*, University of British Columbia
- Influence of Different Confinement Patterns on Behavior of Reinforced Concrete Beams** **11:45 AM**
Riyadh Hindi, Assistant Professor, Department of Civil Engineering and Construction, Bradley University, Peoria, IL; and *Amir Elsharief* and *Mohamad Al-Qattawi*, Bradley University



Monday, March 15
9:00: AM - 12:00 PM

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

Vistasp M. Karbhari, Professor, Department of Structural Engineering, University of California, San Diego, CA; and *Wellington Chu* and *Celine Helbling*, 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 *Theophanis Theophanous*, *Stephen Phifer*, *John Bausano*, *Carin Roberts-Wollmann* and *Scott Case*, Virginia Polytechnic Institute and State University

Monday, March 15

9:00: AM - 12:00 PM



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 11:30 AM **Concrete Structure Reinforcement Under Sustained** **Load in Wet and Alkaline Environment**

Brahim Benmokrane, NSERC Chair Professor, Department of Civil
Engineering, University of Sherbrooke, Sherbrooke, QC, Canada;
and *Gilbert Nkurunziza* and *Patrice Cousin*, University of Sherbrooke



Monday, March 15

9:00 AM - 12:00 PM

★ 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 9:00 AM
Mohammad S. Khan, Vice President, Professional Service Industries,
Inc., Fairfax, VA

Evolution of Durability in Concrete Pavements 9:05 AM
Stephen W. Forster, Technical Director, Federal Highway Administration,
McLean, VA

PCC Pavement Durability Studies 9:30 AM
Kurt D. Smith, Principal Engineer, Applied Pavement Technology,
Inc., Champaign, IL

**Efforts to Improve Durability of
Transportation Facilities in Virginia** 10:00 AM
Celik Ozyildirim, Principal Research Scientist, Virginia Transportation
Research Council, Charlottesville, VA

**Development of Specifications for
Sulfate Resistance** 10:30 AM
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** 11:00 AM
Mohammad S. Khan, Vice President, Professional Service Industries,
Inc., Fairfax, VA

**Improving Concrete Performance Using
Slag Cement** 11:30 AM
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



Monday, March 15

9:00 AM - 12:00 PM

★ 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 **10:00 AM**
Concrete in India
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

Michael Johannes Paul, Senior Vice President, LZA Technology, Philadelphia, PA

Crescent City Ready Mix-Batching, Mixing 11:00 AM
and Transporting

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



Monday, March 15

11:30 AM - 1:00 PM

Session Moderator Orientation Workshop

Conservatory

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.

Monday, March 15

12:00 PM - 2:00 PM



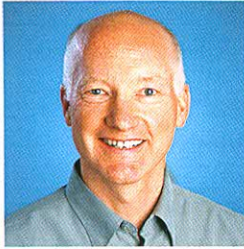
✓ Student Lunch

Intl Blrm E

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.

✓ Separate Fee Required



Monday, March 15

2:00 PM - 5:00 PM

Seismic Assessment and Retrofit Techniques for Concrete Bridges

Thoroughbred

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 2:00 PM

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

State-of-the-Art Summary on Seismic Retrofit Techniques for Concrete Bridges 2:25 PM

Sri Sritharan, Assistant Professor, Department of Civil and
Construction Engineering, Iowa State University, Ames, IA; and
Tony Powers, HDR Engineering

Seismic Vulnerability Evaluation of I-880 Interstate Bridge in California 2:50 PM

Sashi K. Kunnath, Associate Professor, Department of Civil &
Environmental Engineering, University of California at Davis, CA

Seismic Retrofit of Bridges Using Restrainer Cables 3:15 PM

Reginald DesRoches, Assistant Professor, School of Civil
Engineering, Georgia Institute of Technology, Atlanta, GA

Seismic Evaluation and Retrofit of Octagonal Bridge Columns with Pedestals 3:40 PM

M. Saiid Saiidi, Professor, Department of Civil Engineering,
University of Nevada, Reno, NV; and *Ahmad Itani*, *Nathan Johnson*,
and *Samaan Ladkany*, University of Nevada

Monday, March 15

2:00 PM - 5:00 PM



Seismic Assessment and
Retrofit Techniques for
Concrete Bridges-*continued*

**Seismic Retrofit of Bent Cap/Column
Joints in Missouri** **4:05 PM**

Pedro F. Silva, Assistant Professor, Department of Civil Engineering,
University of Missouri-Rolla, Rolla, MO

**Survey of Bridge Seismic Retrofit Projects
in St. Louis** **4:35 PM**

Mark R. Capron, Project Manager, Jacobs Civil Inc., St. Louis, MO



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

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 **2:00 PM**

Sang-Wook Bae, Graduate Research Assistant, Department of Civil,
Architectural, and Environmental Engineering, University of
Missouri-Rolla, MO; and *Abdeldjelil Belarbi* and *John J. Myers*,
University of Missouri-Rolla

Effectiveness of Using CFRP Repair Technique to Extend Service Lives of Corroded Beams **2:35 PM**

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 **3:10 PM**

Sergio F. Breña, 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 **3:45 PM**

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

Monday, March 15

2:00 PM - 5:00 PM



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**

*Rhocel 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

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

★ Denotes theme session



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** 4:00 PM

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

**Self-Consolidating Concrete: Design, and
Applications** 4:30 PM

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**
Robert C. Richardson, Principle, R. C. Richard and Associates Engineering Consultants, Sun Lakes, AZ

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



Monday, March 15

5:00 PM - 6:00 PM

Women in ACI Reception

9101

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

Jefferson

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



1948 Denver Convention: from left to right, Herbert J. Gilkey, Harvey Whipple, Messner, Frank H. Jackson, and Frank F. Van Atta

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? Thoroughbred

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. Lingscheid, 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, Senoir Program Manager, Army Corps of Engineers, Washington D.C.

NIST's Approach to Research Funding: New ATP Competition **8:05 PM**
Donald Bansleben, 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

Conservatory

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 Top 10 List **8:00 AM**
M. R. Hansen, Professor, Department of Civil Engineering, South Dakota School of Mines and Technology, Rapid City, SD



Tuesday, March 16

8:00 AM - 9:00 AM & 9:00 AM - 12:00 PM

Continental Breakfast

Lincoln W

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

Lincoln W

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. Baldrige
Senior Vice President
ECS, Ltd.
Chantilly, VA

Introduction

9:00 AM

James H. Baldrige, Senior Vice President, ECS, Ltd., Chantilly, VA

Managing a Large, Fast-Track, Concrete Project: The United States Patent and Trademark Office— Lessons Learned

9:05 AM

*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 Your Imagination

11:05 AM

*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

Lincoln E

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
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** **9:05 AM**
*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** **9:35 AM**
*Charlene K. Roise, President, Hess, Roise and Company,
Minneapolis, MN*

**Prestressed Box Girder Bridges in Cuba in
the 1950s** **10:05 AM**
*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 9:00 AM
Stewart C. Watson, Kinematics, East Amherst, NY

**Concrete Craftsmanship: 100 Years of
Innovation and Artistry** 9:05 AM
Jamie Farny, Masonry and Special Products Program Manager,
Portland Cement Association, Skokie, IL

Evolution of Concrete Masonry 9:35 AM
Robert Thomas, National Concrete Masonry Association,
Herndon, VA

Creating Bridges as Art Through the Decades 10:05 AM
Linda Figg, President, Figg Engineering Group, Tallahassee, FL

**Architectural Cast Stone: Its Place in the History
of Celebrating a Century of Beautiful Concrete** 10:35 AM
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** 11:05 AM
Joe Nasvik, Decorative Concrete Council & *Concrete Construction*
Magazine, Addison, IL

Terrazzo Through the Ages 11:35 AM
George D. Hardy, Executive Director, National Terrazzo & Mosaic
Association, Purcellville, VA; and *David Laudadio*, National Terrazzo
& Mosaic Association

★ Denotes theme session



Tuesday, March 16

9:00 AM - 12:00 PM

Fly Ash for ASR Mitigation—How Critical are the CaO Limits? Jefferson E

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

Tuesday, March 16

9:00 AM - 12:00 PM



Fly Ash for ASR Mitigation—How Critical are the CaO Limits?—*continued*

Effect of Fly Ash Composition on Field Performance of Concrete with Reactive Aggregates **11:05 AM**

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



Tuesday, March 16

12:00 PM - 2:00 PM

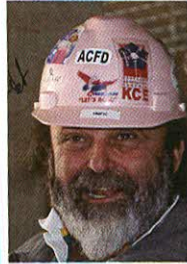
✓ Contractor's Day Lunch

Intl Blrm E

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

Tuesday, March 16

2:00 PM - 5:00 PM



★ Contractor's Day:
Productivity, Concrete &
Masonry–Technology Applications
That Will Increase Your Productivity

Lincoln W

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

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

Introduction 2:00 PM
James H. Baldrige, 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



Tuesday, March 16
2:00 PM - 5:00 PM

Open Paper Session

Jefferson E

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. Tjhin, 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

Tuesday, March 16
2:00 PM - 5:00 PM



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. Altoubat, 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, Atomil Energy Regulatory Board, Mumbai, India; and *Amit Mittal*, Nuclear Power Corporation



Tuesday, March 16
2:00 PM - 5:00 PM

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

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 2:00 PM

Santiago Pujol, Wiss, Janney, Elstner Associates, Inc., Emeryville, CA

Effect of Load History on Buckling of Reinforcement in RC Bridge Columns 2:30 PM

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 3:00 PM

David H. Sanders, Associate Professor, Department of Civil Engineering, University of Nevada, Reno, NV; Patrick Laplace and M. Saïd Saïidi, University of Nevada; and Saad El-Azazy, Caltrans

Damage Accumulation in Lightly Confined Bridge Columns 3:30 PM

R. Tyler Ranf, 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 4:00 PM

Sashi K. Kunnath, Associate Professor, Department of Civil & Environmental Engineering, University of California at Davis, Davis CA; Andrew Taylor, FPF Consulting Engineers; and Ashraf El-Bahy, TLC Engineers

Effects of Loading History on San Francisco-Oakland Bay Bridge East Span Seismic Safety Project 4:30 PM

Eric M. Hines, Research Assistant Professor, Department of Civil and Environmental Engineering, Tufts University, Medford, MA

Tuesday, March 16

2:00 PM - 5:00 PM



★ Celebrating a Century of
Beautiful Concrete, Part II

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

Introduction **2:00 PM**

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

**Architectural Precast Concrete: Yesterday
and Today** **2:05 PM**

Sid Freedman, Director, Architectural Precast Concrete Services,
Precast/Prestressed Concrete Institute, Chicago, IL

Baha'i Temple—An Aesthetic Achievement **2:35 PM**

Robert Armbruster, President, The Armbruster Company, Inc.,
Glencoe, IL

**Concrete Walls as Art—Creative Formliner
Applications** **3:05 PM**

Buck Scott, President, Scott Systems, Inc., Denver, CO; and *Dana
Scott*, Scott Systems, Inc.

**Designing Precast Bridges in Harmony with
Historic Sites** **3:35 PM**

Tim Beach, CON/SPAN Bridge Systems, Dayton, OH

**From a Builder's Viewpoint—A Review of
Concrete Aesthetics** **4:05 PM**

Chris Forster, Vice President, Morley Construction Co., Santa
Monica, CA

Brighter and Better Concrete **4:35 PM**

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 2:00 PM

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

ACI and Concrete in the UAE—Progress in the Last 30 Years 2:25 PM

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

Progress in Concrete Education and Research in Iran 2:50 PM

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

Progress in Concrete Activities in Japan with ACI 3:15 PM

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

Progress in Concrete in South America with ACI Help 3:40 PM

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

Prestressed Concrete in India: 70 Years and Getting Stronger! 4:05 PM

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

Promising Concrete in Research and Applications in Scandinavian Countries 4:30 PM

Per Fidjestøl, Elkem ASA Materials, Kristiansand, Norway

★ Denotes theme session

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.



West Virginia Senator Nathan B. Scott and his wife with their automobile in front of the U.S. Capitol, circa 1905



Wednesday, March 17

9:00 AM - 12:00 PM

★ 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

Wednesday, March 17

9:00 AM - 12:00 PM



Innovations in Concrete
Bridge Design & Construction:
Recent Developments

Monroe W

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.



Wednesday, March 17

9:00 AM - 12:00 PM

Cement Grouting: Innovative Materials for the 21st Century

Jefferson W

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 Univer-
sity, State College, PA*

Wednesday, March 17

9:00 AM - 12:00 PM



Cement Grouting: Innovative Materials for the 21st Century-*continued*

Enhancing Durability of Post-Tensioning Structures by Improving Quality of Grouting 11:05 AM

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



Wednesday, March 17

9:00 AM - 12:00 PM

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

Lincoln E

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

9:10 AM

Terence C. Holland, Consulting Engineer, Mantua, OH

Coal Combustion Product Partnership Activities at EPA's Office of Solid Waste

9:45 AM

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

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



Wednesday, March 17

2:00 PM - 5:00 PM

Transport Properties of Concrete

Lincoln W

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 2:00 PM

*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 2:30 PM

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

ASTM Test for Transport 3:00 PM

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

Modeling Transport Processes 3:30 PM

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

Assessing Moisture Transport Properties of Concrete 4:00 PM

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

In-Situ Measurement of Transport 4:30 PM

*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? Jefferson W

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



Wednesday, March 17

2:00 PM - 5:00 PM

★ Historical Perspective on Experimental Analysis of Concrete Structures Jefferson E

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

Lincoln E

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 **2:00 PM**

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 **2:05 PM**

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

Simple Method of Proportioning Sustainable Concrete Mixtures **2:25 PM**

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

Concrete and the Economics of Recycling **2:50 PM**

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 **3:10 PM**

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 **3:35 PM**

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



Wednesday, March 17

2:00 PM - 5:00 PM

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

Lincoln E

**Lightweight Aggregates—Holistic Contribution
to Sustainability** 4:00 PM

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** 4:30 PM

Jean-Claude Roumain, Corporate Products Manager, Holcim (US), Lakewood, CO; and *Arezki Tagnit-Hamou*, University of Sherbrooke

Thursday, March 18

7:45 AM - 5:00 PM



✓ ACI Educational Seminar Lincoln E
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



Thursday, March 18

7:45 AM - 5:00 PM

✓ 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



Educational Seminars

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**

Roanoke, VA	VAS	April 7, 2004
New Orleans, LA	LAS	April 15, 2004
Los Angeles, CA	CAS	April 29, 2004
Minneapolis, MN	MNS	May 6, 2004
Portland, OR	ORS	May 19, 2004
Albany, NY	NYS	May 27, 2004

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**

Las Vegas, NV	NVS	March 30, 2004
Roanoke, VA	VAS	April 8, 2004
Chicago, IL	ILS	May 12, 2004
Portland, OR	ORS	May 20, 2004
Philadelphia, PA	PAS	June 9, 2004

For additional information on this and other ACI seminars or to register online, visit <http://www.concreteseminars.com/> or call 248-848-3815.



Educational Seminars

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***

Dallas, TX	TXS	April 14, 2004
Detroit, MI	MIS	April 21, 2004
Charlotte, NC	NCS	May 4, 2004
Salt Lake City, UT	UTS	May 26, 2004

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

Boston, MA	MAS	March 31, 2004
Dallas, TX	TXS	April 15, 2004
Detroit, MI	MIS	April 22, 2004
Seattle, WA	WAS	April 29, 2004
Charlotte, NC	NCS	May 5, 2004
Salt Lake City, UT	UTS	May 27, 2004

For additional information on this and other ACI seminars or to register online, visit <http://www.concreteseminars.com/> or call 248-848-3815.



Educational Seminars

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.**

New York City, NY	NYS	April 8, 2004
Nashville, TN	TNS	April 20, 2004
Denver, CO	COS	April 27, 2004
Washington, DC	DCS	May 4, 2004
San Diego, CA	CAS	May 27, 2004
San Francisco, CA	SFS	June 10, 2004

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.**

Baltimore, MD	MDS	April 1 & 2, 2004
Milwaukee, WI	WIS	April 15 & 16, 2004
Phoenix, AZ	AZS	May 4 & 5, 2004
Oklahoma City, OK	OKS	May 18 & 19, 2004
San Antonio, TX	TXS	May 25 & 26, 2004
Jacksonville, FL	FLS	June 8 & 9, 2004

For additional information on this and other ACI seminars or to register online, visit <http://www.concreteseminars.com/> or call 248-848-3815.



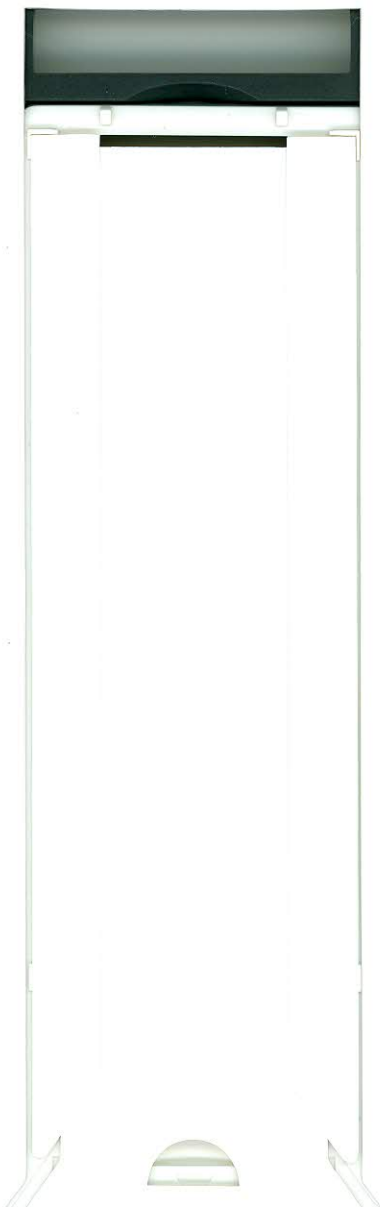
Educational Seminars

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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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



Concrete — A Century of Innovation

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