FALL 2003
Boston
PROGRAM BOOK
Saturday, September 27 through
Wednesday, October 1
Sheraton Boston Hotel
Table of Contents

ACI Fall 2003 Convention
September 27 - October 1, 2003
Sheraton Boston Hotel
Boston, MA

ACI Board Committees & Chairs ................... Inside Back Cover
ACI New England Chapter Convention Committee ........ 18
ACI New England Chapter Officers ...................... 17
ACI President's Welcome Letter ....................... 7
ACI Sustaining Members .................................. 4
Board of Direction ....................................... 3
Boston Mayor Welcome Letter ......................... 8
Centennial Information .................................. 21
Certification Programs .................................. 9
Contractor's Day Lunch .................................. 101
Contractor's Day Session ................................. 95
Convention Committee .................................. Inside Back Cover
Cornerstone Leadership Campaign ....................... 20
Educational Seminar .................................... 121
Exhibitor Floor Plan .................................... Between 24 & 25
Exhibitor Hours & Information ......................... 26
Fall 2003 Educational Seminar Information ............. 123
Future ACI Conventions ................................ 10
General Information ..................................... 22
Hotel Map ................................................ Between 24 & 25
Hotel Meeting Room Index .............................. 25
International Conference ................................ 12
International Luncheon .................................. 117
International Symposium ................................. 31
Numeric Committee Listing ............................. 55
Opening Session & Lewis H. Tuthill Lecture ............... 65
Program at a Glance ..................................... 41
Publications .............................................. 11
Registration Information & Hours ......................... 22
Special Events .......................................... 32
Sponsors .................................................. 13
Student Concrete Cube Competition .................... 61
Student Luncheon ........................................ 81
Technical & Educational Session Highlights ............ 60
Tour Highlights ......................................... 39
American Concrete Institute
Board of Direction

President
José M. Izquierdo-Encarnación

Vice Presidents
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James R. Cagley

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Juan Pablo Covarrubias
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Geoffrey Frohnsdorff
Tony C. Liu
W. Calvin McCall
Charles K. Nmai
Aimee Pergalsky
Basile G. Rabbat
Raymundo Rivera-Villarreal
William E. Rushing, Jr.
Richard D. Stehly

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Daniel L. Baker
James O. Jirsa

Executive Vice President
William R. Tolley
American Concrete Institute Sustaining Members

Allen Engineering Corporation

Ash Grove Cement Co.

Construction Materials Engineering Council, Inc.

Ashford Formula

Construction Technology Laboratories

Baker Concrete Construction

Dayton/Richmond Concrete Accessories

Biaxis Corporation

The Erlin Company

Boral Material Technologies

The Euclid Chemical Company

Sustaining Members as of 9/03/03
American Concrete Institute
Sustaining Members

Expanded Shale,
Clay & Slate Institute

Lafarge North America

Lehigh Heidelberg
CEMENT Group

Future Tech Consultants
Construction Materials Engineering,
Inspection & Testing Services

Lithko Contracting, Inc.

Lonestar Industries, Inc.

Ground Heaters, Inc.

ISG Resources, Inc.

Master Builders
Technologies

Kleinfelder, Inc.

Meadow Burke

Sustaining Members as of 9/03/03
American Concrete Institute Sustaining Members

W. R. Meadows Inc.

Seretta Construction, Inc.

SI Concrete Systems

Sika Corporation

Portland Cement Association

St. Lawrence Cement

Precast/Prestressed Concrete Institute

Structural Preservation Systems, Inc.

Pro Mix Technologies

Tru Wall Concrete, Inc.

Sustaining Members as of 9/03/03
ACI President’s Welcome

ACI Members, Guests, and Spouses – Welcome to Boston!

ACI has the privilege of hosting its Fall 2003 Convention in Boston! 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 Solutions Over & Under Boston.” There will be over 25 educational and technical sessions addressing the latest developments in the science and practice of concrete. Several presentations will help us discover the wonderful infrastructure development throughout the City of Boston. In addition, over 350 committee meetings will take place throughout the week.

Some of the regularly scheduled activities include: the Opening Session, followed by the Welcome Reception, Concrete Mixer on Monday, theme sessions, forums, Contractor’s Day, International Luncheon, Student Concrete Cube Competition, and a new educational seminar on Seismic and Wind Design Considerations for Concrete Buildings.

While you are renewing acquaintances with old friends and making new ones, take advantage of the wonderful tours and programs that the ACI New England Chapter has arranged for convention attendees and their guests. Remember to also visit the ACI Bookstore, where our staff will help you find the publication you have been looking for from hundreds of titles available.

I look forward to seeing all of you in the magnificent and historical City of Boston. Ida will be personally welcoming guests and spouses at the guest hospitality and tour program. Enjoy the convention, knowing that with your work we are helping the Institute and the concrete industry move forward for the next 100 years.

Thanks!

José (Pepe) Izquierdo-Encarnación
American Concrete Institute
38800 Country Club Drive
Farmington Hills, MI 48331 U.S.A.

Dear American Concrete Institute Attendees:

Welcome to Boston!

It gives me great pleasure to welcome you to Boston—a dynamic city steeped in history, culture, Old World charm, academic and medical excellence and cosmopolitan sophistication. It is an urban environment where high-rise symbols of tomorrow harmonize with cherished emblems of yesterday.

Our Shining City on the Hill is the quintessential American city. Boston belongs to a diversity of people whose heritage is drawn from every corner of the world. They have shaped a distinctive city of unique neighborhoods and character without compromising our common heritage. The greatness of Boston lies less within the pages of history than in the hearts of its people.

As Mayor, I invite you to share our vitality and take advantage of all that Boston has to offer. Stroll the decks of the USS Constitution or the sidewalks of fashionable Newbury Street. Celebrate feast days with the North End’s Italian community, explore the historical landmarks on the Freedom Trail, or discover unique treasures such as the new Dreams of Freedom Museum.

A Boston tradition awaits you in our selection of world class hotels, nationally acclaimed restaurants and superb shops. A variety of entertainment offerings will help make your visit a memorable one.

Again, welcome. Enjoy your stay, and learn why Boston was rated as the American city with the best quality of life.

Sincerely,

Thomas M. Menino
Mayor of Boston
ACI Certification

YOUR industry –
YOUR programs!

The list of Supporters continues to GROW!!

These national organizations participate (cooperate) with ACI in programs to improve the quality of concrete construction

American Concrete Pavement Association
American Shotcrete Association
American Subcontractors Association*
American Society of Concrete Contractors
American Society for Testing and Materials
Cement and Concrete Reference Laboratory
Concrete Construction Magazine
Laborers-AGC Education and Training Fund*
National Ready Mixed Concrete Association
Portland Cement Association
Precast/Prestressed Concrete Institute
Tilt-Up Concrete Association
U. S. Army Corps of Engineers

* ACI's two newest participants!
ACI Spring 2004 Convention
March 14-18, 2004

WASHINGTON HILTON AND TOWERS, WASHINGTON DC

1904 2004
Concrete – A Century of Innovation

Hosted by the ACI National Capital Chapter

Watch for registration material in January!
Visit the ACI Bookstore Located in the Grand Ballroom and Browse our Bargains

All ACI Publications are Discounted!

318-02
Building Code Requirements for Structural Concrete and Commentary

IPS-1
Essential Requirements for Reinforced Concrete Buildings

MCP-2003
2003 ACI Manual of Concrete Practice (Six-part set plus separate index or CD-Rom)

SP-215
Field Applications of FRP Reinforcement: Case Studies

Plus over 100 Additional Publications available on Concrete

Concrete — A Century of Innovation
Seismic Bridge Design and Retrofit for Earthquake Resistance
2003 International Conference
American Concrete Institute
December 8-9, 2003
Hilton Torrey Pines
La Jolla, California

Major earthquakes around the world have repeatedly exposed the vulnerability of bridges under seismic stress. Learn about recent advances in seismic bridge research and implementation from more than 20 of the world's leading seismic bridge engineers and researchers.

For more information, contact:
ACI Member/Customer Services
Phone: 248-848-3800
Fax: 248-848-3801
Email: bkstore@concrete.org
Convention Sponsors

Platinum
Aggregate Industries Northeast Region
ATC Associates, Inc.
Boston Sand & Gravel Company
Ciment Quebec, Inc.
Grace Construction Products
Lafarge North America
Massachusetts Concrete & Aggregate Producers Association (MaCAPA)
Master Builders, Inc.
S&F Concrete Contractors, Inc.
St. Lawrence Cement

Gold
American Shotcrete Association
Construction Materials Engineering Council
D&M Concrete Floor Company
Germann Instruments, Inc.
Glens Falls Lehigh Cement Company
ISG Resources, Inc.
King Packaged Materials Company
J. L. Marshall & Sons, Inc.
Pure Technologies, Ltd.
Reinforced Concrete Construction Committee (RC3)
RediMix Companies
Sika Corporation
Slag Cement Association
Separation Technologies, Inc.
Vector Corrosion Technologies

Silver
Carroll Concrete
MacLellan Concrete Company, Inc.
Miller Engineering & Testing, Co., Inc.
Myers Associates
Northern New England Concrete Promotion Association (NNECPA)
PRM Concrete Corporation
Silica Fume Association
Simpson Gumpertz & Heger, Inc.
Spa Steel Products Co., Inc.

Sponsor listing as of 9/04/03
Convention Sponsors

Bronze
CIA (Herman Protze)
Earthtech
Fletcher Granite Company
Lampasona Concrete Corp.
Massachusetts Construction Industry Board (MCIB)
Mansour Construction, Inc.
McDevitt Trucks, Inc.
Norlite
Oshkosh Truck Corp./McNeilus Companies
SI Concrete Systems
S&L Concrete Floors, Inc.
Earl R. Somero & Associates
Thompson & Lichtner Co., Inc.
Wiss Janney Elstner Associates, Inc.

Contributor
ACI Arizona Chapter
Blakeslee Prestress, Inc.
Gilbane Building Company
James Instruments, Inc.
L.M. Scofield Co.
PCI/New England Region
Romano Associates, Inc.
Silpro Corp.
Somero Enterprises
Varney Bros. Sand & Gravel, Inc.

Participant
Barton Engineering
Kurt G. Benedict, P.E.
Consolidated Concrete
Jackson Construction
K.J. Greene Consultants
Anthony Kojundic
Tom McHale
Jon Mullarky
Nycon, Inc.
Wayne A. Tarr

Sponsor listing as of 9/04/03
Exhibiting Sponsors

GRACE
Construction Products
www.graceconstruction.com
Grace Construction Products

KING
King Packaged Materials Company

LAFARGE
North America

Massachusetts Concrete and Aggregate Producers Association (MaCAPA)

CMEC

Germann Instruments, Inc.

Master Builders, Inc.

Glens Falls Lehigh Cement Group

Myers Associates

Exhibitor list as of 8/22/03
ACI New England Chapter Officers

President
Douglas J. Smith
Separation Technologies, Inc.

Vice President
Wayne A. Tarr
SI Concrete Systems

Past President
Kevin Demello
D&M Concrete Floor Co., Inc.

Treasurer
Evan Karalolos
Thompson & Lichtner Co.

Board Members
Tony Fidanos
S&F Concrete Contractors, Inc.

Brian Barry
Dragon Cement

Gabriel R. Crocker
Gale Associates, Inc.
Co-Chairs
Manny Mattos
D&M Concrete Floor Co., Inc.

Wayne M. Tarr
Aggregate Industries

Advisor
Duke Pointer
Fletcher Granite Company

Treasurer
Christopher Bowker
Bowker Associates

Contractor's Day
Christopher J. Zarba
Blakeslee Prestress, Inc.

Peter Craig
Concrete Constructives

Exhibits
David Bissonnette
The Redimix Companies

Fundraising
John S. Colby
W.R. Grace & Company

Brian Cusack
Master Builders, Inc.

Wayne A. Tarr
SI Concrete Systems
Guest Program
Douglas J. Smith
Separation Technologies, Inc.

Jim Lee
Boston Sand & Gravel Co.

Mike Salvo
Boston Sand & Gravel Co.

Tony Fidanos
S&F Concrete Contractors, Inc.

Publicity
Arthur Stenberg
MaCAPA

Bob Myers
Myers Associates

Tom Bartholomew
NNECPA

Social Activities
John Galagher
Glens Falls Lehigh Cement Company

Evan Karalolos
Thompson & Lichtner Co.

Student Program
Kurt G. Benedict
Wentworth Institute

Daniel Jansen
Tufts University

Thomas Bowker
ATC Associates, Inc.

Technical Program
Marcia Kelly
Earth Tech

The ACI New England Chapter desk is located outside the Grand Ballroom.
An Endowment Campaign for ACI’s Second Century

Concrete — A Century of Innovation

The goal of this very important student fellowship endowment campaign, which runs through Fall 2003, is to raise $5,000,000 to support the “best & brightest” future concrete professionals. All ACI members and friends are encouraged to participate in this initiative. Pledges of any amount are welcome, and payment can be extended over 5 years.

The Campaign Steering Committee includes:
- Dan Baker, Chair
- George Barney
- Jim Cagley
- Terry Dooley
- Peter Emmons
- Bob Epifano
- Bob Garbini
- Charles Pankow
- Roger Phares
- Mike Shydlofski

These individuals can answer your questions or provide you with a pledge form. Seek them out during the convention this week.

Information packets are also available at the ACI Bookstore in the registration area. Pick up your copy today!

Administered by:
ACI has been serving the concrete industry since 1904 and is poised for continued leadership in concrete technology going into its second century. We're inviting you to be a part of that future. Take a look at just some of the events in store:

**CENTENNIAL DINNER**
This dinner will recognize individual contributions to the concrete community and honor our past presidents. This event will take place during the 2004 Spring Convention in Washington, D.C.

**CONCRETE OF THE FUTURE MIXER**
See what's ahead for the concrete industry in years to come! This mixer will be held during the 2004 Fall Convention in San Francisco, California.

**INTERNATIONAL CONFERENCES**
Conferences are scheduled for Paris, Australia/New Zealand, India and Brazil.

**ACI HISTORY BOOK**
An historical publication highlighting significant progress and recognizing individual ACI member contributions. All ACI members will receive a free copy.

**CENTENNIAL BOOK**
A high quality, coffee-table style book highlighting 100 years of innovation in concrete design, engineering, materials, and construction.

This Centennial celebration will also provide multiple opportunities for members and friends of ACI to support the Centennial. For more information on these Centennial activities, please visit our website at [http://www.concrete.org](http://www.concrete.org) or email us at 100years@concrete.org.
General Information

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

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Friday</td>
<td>2:00 PM - 6:00 PM</td>
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<tr>
<td>Saturday</td>
<td>8:00 AM - 5:00 PM</td>
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<tr>
<td>Sunday</td>
<td>7:30 AM - 5:00 PM</td>
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<tr>
<td>Monday</td>
<td>8:00 AM - 5:00 PM</td>
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<tr>
<td>Tuesday</td>
<td>8:00 AM - 12:00 PM</td>
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</tbody>
</table>

Educational Seminar Registration
Wednesday 7:45 AM - 8:00 AM

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

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

Attention ACI Members!
First-time convention attendees have a lobster 🦀 on their badge. Please welcome them to the convention.

Please Note: Name badges MUST be worn to all functions for admittance. You will not be admitted to the Opening Session at the Hynes Convention Center located in Ballroom B without a name badge.

Speaker Ready Room
Thursday, September 25 - Tuesday, September 30
7:00 AM - 7:00 PM
Located in the Hampton Room, third floor (conference level) of the Sheraton Boston Hotel.
Copiers, PCs with printers, and caramates are available for speakers, moderators, and chairs.

Schedule Changes
Cancellations, additions and location changes in the event schedule will be posted daily on the message board in the Grand Ballroom near ACI Registration.
Audio and video taping are strictly prohibited without the expressed written consent of the speaker.

In consideration of fellow attendees, please turn off cell phones and pagers when attending meetings and sessions.

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

**Grand Blrm**

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

**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

Alcohol Policy
All ACI-sponsored receptions will offer nonalcoholic beer and soft drinks. No alcohol will be served to anyone under the age of 21.

Cyber Cafe
Need to check your e-mail? Stay connected to home and work at the Cyber Cafe located in the Grand Ballroom.

<table>
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<tr>
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<td>Monday</td>
<td>8:00 AM - 6:00 PM</td>
</tr>
<tr>
<td>Tuesday</td>
<td>8:00 AM - 12:00 PM</td>
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</tbody>
</table>
General Information

Local Information
The ACI New England Chapter has prepared a welcome bag for you that contains local literature. The welcome bags will be distributed at the ACI Registration Desk.

Local Shopping
The Prudential Center, which is connected to the Sheraton, offers a variety of shops and restaurants. Mall hours are Monday-Saturday 10:00 AM-8:00 PM and Sunday 12:00 PM-6:00 PM.

Sheraton Boston Hotel Restaurants
Apropos – traditional New England cuisine, Open daily 6:00 AM - 2:00 AM

Turning Point Lounge – Beverages & hors d'oeuvres, Open daily 11:00 AM - 1:30 AM

Local Restaurants
The Prudential Center offers 11 restaurants and 14 food court eateries. The food court is open Monday - Friday 7:00 AM-9:00 PM, Saturday 8:00 AM-9:00 PM, and Sunday 9:00 AM-7:00 PM. NOTE: You may charge meals to your room at the Sheraton at participating restaurants only, including Top of the Hub and Marche.

Transportation Around Town
Boston has many different modes of transportation around town. You can catch the trolleys, busses, or the subway to most places in and around Boston. See the concierge for directions.

Tour Transportation
All tours will depart from the Dalton Street Exit at the Sheraton.

Future Convention Information
If you would like to receive information for future ACI conventions via e-mail, please e-mail your name and e-mail address to conventions@concrete.org.
3rd Floor Conference Level
# Where's That Meeting Room?

## Second Floor (Plaza Level)
- Back Bay Ballroom A
- Back Bay Ballroom B
- Back Bay Ballroom C
- Back Bay Ballroom D
- Business Center
- Grand Ballroom
- Independence East
- Independence West
- Republic A
- Republic B
- Republic Foyer

## Hynes Convention Center-Ballroom B
*access Hynes Blrm B via the 2nd floor*

## Third Floor (Conference Level)
- Beacon B
- Beacon C
- Beacon D
- Beacon E
- Beacon F
- Beacon G
- Beacon H
- Berkeley
- Boardroom
- Clarendon
- Commonwealth
- Conference Room
- Dalton
- Exeter
- Fairfax A
- Fairfax B
- Gardner A
- Gardner B
- Speaker Ready Room

## Fifth Floor (TEC/Conference Rooms)
- TEC/Conference Room 1
- TEC/Conference Room 2
- TEC/Conference Room 3
- TEC/Conference Room 4
- TEC/Conference Room 5
- TEC/Conference Room 6
- TEC/Conference Room 7

## Abbreviation
- Back Bay Blrm A
- Back Bay Blrm B
- Back Bay Blrm C
- Back Bay Blrm D
- Business Center
- Grand Blrm
- Independence E
- Independence W
- Republic A
- Republic B
- Republic Foyer
- Hynes Blrm
- Beacon B
- Beacon C
- Beacon D
- Beacon E
- Beacon F
- Beacon G
- Beacon H
- Berkeley
- Boardroom
- Clarendon
- Commonwealth
- Conference Rm
- Dalton
- Exeter
- Fairfax A
- Fairfax B
- Gardner A
- Gardner B
- Hampton
- TEC/Conference 1
- TEC/Conference 2
- TEC/Conference 3
- TEC/Conference 4
- TEC/Conference 5
- TEC/Conference 6
- TEC/Conference 7
Exhibitors

Exhibits

Grand Blrm
Sponsored by the ACI New England Chapter

Exhibit Hours:
- Saturday: 8:00 AM - 5:00 PM
- Sunday: 8:00 AM - 6:00 PM
- Monday: 8:00 AM - 6:00 PM
- Tuesday: 8:00 AM - 6:00 PM

Exhibitor Name | Booth #
--- | ---
Aggregate Industries NE Region | 34
Aggregate Industries NE Region is a producer of ready-mix concrete and stone.

American Shotcrete Association | 25
The American Shotcrete Association provides education and training on the use of shotcrete in concrete construction and repair. The ASA also supports the ACI Nozzelman Certification program. These programs serve to promote the use of high-quality shotcrete as a cost-effective solution to owners and designers.

ATC Associates, Inc. | 2
ATC Associates, Inc., is a full-service engineering and environmental firm with 66 offices nationwide. ATC's staff of over 1800 includes engineers and scientists who address engineering and environmental concerns confronting large or small clients. The company's services include geotechnical engineering/construction materials testing, building sciences, environmental management, infrastructure engineering, and training.

Boston Sand & Gravel Company | 21
Boston Sand & Gravel Company is a producer of ready-mix concrete and aggregates.

CMEC | 29
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.

Exhibitor list as of 9/3/03. An updated listing will be located outside the Grand Ballroom.

26
<table>
<thead>
<tr>
<th>Exhibitor Name</th>
<th>Booth #</th>
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<tbody>
<tr>
<td><strong>Germann Instruments, Inc.</strong></td>
<td>37 &amp; 38</td>
</tr>
<tr>
<td>Germann Instruments, Inc., provides testing equipment for nondestructive investigation of concrete structures, durability of new structures, service life estimation, fast track construction, structural integrity, corrosion investigation, repair quality, and monitoring.</td>
<td></td>
</tr>
</tbody>
</table>

| **Glens Falls Lehigh Cement Group**           | 28      |
| Glens Falls Lehigh Cement Group is a producer and distributor of portland, masonry, white, colored, and "ALLCEM" slag cements. |

| **Grace Construction Products**               | 27      |
| 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. |

| **King Packaged Materials Company**           | 31      |
| King Packaged Materials Company is a leading supplier of pre-packaged shotcrete, grout and other specialty cementitious products to the North American mining, tunneling, and construction industries. Through its Minequip Division, King is also a leading supplier of Aliva shotcrete equipment and HANY grouting systems. |

| **Lafarge North America**                     | 30      |
| Lafarge is a cement, slag cement, masonry cement, fly ash, and concrete manufacturer. |

| **Massachusetts Concrete and Aggregate Producers Association (MaCAPA)** | 23 |
| MaCAPA is a ready-mix concrete promotion organization for the states of Massachusetts and Rhode Island. |

<p>| <strong>Master Builders, Inc.</strong>                     | 32      |
| Master Builders, Inc., is a leading provider of innovative chemical and mineral admixtures used to improve placing, pumping, finishing, and 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. |</p>
<table>
<thead>
<tr>
<th>Exhibitor Name</th>
<th>Booth #</th>
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</thead>
<tbody>
<tr>
<td><strong>Myers Associates</strong></td>
<td>19</td>
</tr>
<tr>
<td>Myers Associates is an authorized dealer for Forney, Gilson, Humboldt, James Instruments, Soil Test, Deslauriers, etc. Myers Associates also sells concrete testing equipment.</td>
<td></td>
</tr>
<tr>
<td><strong>Northern New England Concrete Promotion Association</strong></td>
<td>33</td>
</tr>
<tr>
<td>Northern New England Concrete Promotion Association is a concrete promotion association for the states of Maine, New Hampshire, and Vermont.</td>
<td></td>
</tr>
<tr>
<td><strong>Pure Technologies, Ltd.</strong></td>
<td>22</td>
</tr>
<tr>
<td>Pure Technologies, Ltd., specializes in the manufacture, supply, and management of remote structural instrumentation and surveillance systems. Pure's proprietary SoundPrint Acoustic Monitoring System is used throughout the world to detect and locate failures of tensioned reinforcements in bridges, pipelines, and buildings. Automated Internet-based data transmission, centralized data processing, and web-based reporting provides timely, cost-effective information to owners and engineers.</td>
<td></td>
</tr>
<tr>
<td><strong>Reinforced Concrete Construction Committee (RC³)</strong></td>
<td>36</td>
</tr>
<tr>
<td>Reinforced Concrete Construction Committee promotes cast-in-place concrete as a building material in high-rise structures in the Boston metro area.</td>
<td></td>
</tr>
<tr>
<td><strong>Separation Technologies, Inc. (STI)</strong></td>
<td>24</td>
</tr>
<tr>
<td>For concrete industry users, Separation Technologies, Inc., and the ProAsh brand deliver a consistent, high quality, branded fly ash that meets and exceeds customers' needs and expectations for cost savings, dependability, product strength and durability, and customer desirability as an environmentally friendly &quot;green product.&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>S&amp;F Concrete Contractors, Inc.</strong></td>
<td>35</td>
</tr>
<tr>
<td>S&amp;F Concrete Contractors, Inc. is a complete concrete contractor. Divisions include: concrete formwork division; cast-in-place structural concrete formwork, rebar &amp; mesh, post-tensioning; Concrete Flatwork Division; pump, place &amp; finish; and Specialty Floor Division; distribution &amp; manufacturing facilities, and superflat.</td>
<td></td>
</tr>
<tr>
<td>Exhibitor Name</td>
<td>Booth #</td>
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<tr>
<td>------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Sika Corporation</td>
<td>4</td>
</tr>
<tr>
<td>Sika Corporation Construction Products Division of Lyndhurst, NJ, is a technology leader with over 90 years of experience in concrete materials and restoration technology. Sika's product line includes concrete admixtures, sealants, adhesives, corrosion inhibitors, specialty mortars, epoxy resins, structural strengthening systems, grouts, anchoring adhesives, overlays, and protective coatings. Full service sales and technical offices support customers nationwide. Visit the Sika Corporation Construction Products Division website at <a href="http://www.sikausa.com">www.sikausa.com</a>.</td>
<td></td>
</tr>
<tr>
<td>Silica Fume Association</td>
<td>18</td>
</tr>
<tr>
<td>The Silica Fume Association, through a cooperative agreement with the Federal Highway Administration, provides high-performance concrete technology transfer to transportation departments and to the design and construction communities.</td>
<td></td>
</tr>
<tr>
<td>Slag Cement Association</td>
<td>3</td>
</tr>
<tr>
<td>The Slag Cement Association (SCA) represents producers and shippers of slag cement in the U.S. The SCA is the leading source of knowledge on blast furnace slag-based cementitious products. The SCA educates customers, specifiers, and other end-users on the various attributes, benefits, and uses of these products.</td>
<td></td>
</tr>
<tr>
<td>Spa Steel Products Co., Inc.</td>
<td>1</td>
</tr>
<tr>
<td>Spa Steel Products Co, Inc., is the manufacturer of the Thermocure II Concrete Cylinder Curing Box, which heats and cools to maintain the required temperature during the field curing of test cylinder molds.</td>
<td></td>
</tr>
<tr>
<td>St. Lawrence Cement</td>
<td>20</td>
</tr>
<tr>
<td>St. Lawrence Cement is a leading producer and supplier of products and services for the construction industry, namely cement and GranCem. Through its various units, St. Lawrence Cement operates cement plants, distribution terminals, and mineral component plants throughout the Northeast and into Canada.</td>
<td></td>
</tr>
</tbody>
</table>
### Exhibitors

<table>
<thead>
<tr>
<th>Exhibitor Name</th>
<th>Booth #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vector Corrosion Technologies</td>
<td>26</td>
</tr>
</tbody>
</table>

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

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

Watch for details in the Calls for Papers section in CI for the following topics:
National Reports
History and Definition
Materials/Mixture Design/Research
Structural Design/Research
Construction Techniques
Case Histories
Codes/Specifications
Quality Control
Cost Effectiveness

For further information, contact:
Phyllis Erebor, Liaison
Phone: 248-848-3784
Fax: 248-848-3768
E-mail: Phyllis.Erebor@concrete.org
Special Events  
Saturday, September 27

Student Concrete Cube Competition Republic B  
11:30 AM - 5:00 PM

Sponsored by Committee E801 and the ACI New England Chapter

The objective of this competition is to produce a concrete cube that achieves, as closely as possible, a target design strength of 40 MPa and a target mass of 220 grams per cube (moderately lightweight concrete). Come cheer on your favorite team!

Opening Session  Hynes Blrm B  
Lewis H. Tuthill Lecture Series  
5:15 PM - 6:30 PM

Sponsored by ACI International

Kick off the Fall Convention by attending this opening event. Gather with other ACI attendees to help recognize chapters, international attendees, and students. Please note: You must wear your name badge to enter the Hynes Convention Center.

Speaker:  James S. Pierce  
Chief  
Water Resources Services Division  
Technical Service Center  
Bureau of Reclamation  
Littleton, CO

Topic:  Tut’s Treasure: A Legacy of Continuing Value for the New Century

One of Lewis Tuthill’s main concerns throughout his career was quality concrete construction. Tut’s treasure was his lasting contributions to the literature, including the early editions of ACI SP-1, the Concrete Primer, major portions of several other ACI publications, and the Bureau of Reclamation’s Concrete Manual. During this presentation, Mr. Pierce will review current quality control practices and challenge the industry to uphold Tut’s legacy.
Special Events
Saturday, September 27

Welcome Reception
6:30 PM - 7:30 PM

Grand Bldg

Sponsored by the ACI New England Chapter

Start your convention week by visiting the exhibit booths, meeting other attendees and interacting with other top industry professionals. A cash bar and light snacks will be available to keep you going during this jam-packed networking hour.

Following the reception, head out to dinner to one of Boston's fine restaurants. See the concierge for reservations. Note: Beverages for this event must be paid for with cash and cannot be charged to your room.

Hot Topic—Specifications and Responsibilities for Crack Repair
7:30 PM - 9:30 PM

Back Bay D

Sponsored by the Hot Topic Committee and the ACI New England Chapter

Session Moderator: John C. Hukey

What cracks in reinforced concrete structures require repair? Is crack width the determining criterion for repairs? Are crack widths predictable and controllable? Who is responsible for controlling crack widths and paying for repairs? At this hot topic session, speakers representing the views of owners, design professionals, and contractors will discuss the answers to these important questions.
Special Events
Sunday, September 28

Grace Laboratories Off-Site Tour (Free)
8:15 AM - 11:30 AM

Sponsored by the ACI New England Chapter and Grace Construction Products’ Research and Development Laboratories

ACI attendees, students and faculty advisors may board the bus at 8:15 am at the Dalton Street exit of the Sheraton Hotel for a tour of Grace Construction Products’ Research and Development Laboratories. Bus space is limited and on a first come first serve basis.

The tour will feature:

- Analytical & Technical Services laboratories supporting Grace’s sales force and their customers, as well as R&D and Manufacturing, microscopy laboratory, and one of the analytical chemistry laboratories.
- Material Engineering Laboratory responsible for Grace’s durability products, such as corrosion inhibitors and shrinkage-reducing admixtures.
- Concrete Fabrication and Testing areas supporting all of the Specialty Construction Chemicals’ R&D groups with testing of their products.
- Fiber Testing laboratory responsible for the STRUX line of products, Verifi, and other Grace fiber projects.
Special Events  
Sunday, September 28

✓ Student Luncheon Buffet  Commonwealth
12:00 PM - 2:00 PM
$25US per person (FREE for students)

Sponsored by the ACI New England Chapter, Master Builders, and Grace Construction Products' Research and Development Laboratories

**Speaker:** Larry R. Roberts  
Director  
Technology, Planning and Transfer  
Grace Construction  
Cambridge, MA

**Speaker:** Joseph A. Daczko  
Group Manager of Concrete Technology  
Department of Research and Development  
Master Builders, Inc.  
Cleveland, OH

**Topic:** Self-Consolidating Concrete

Self-consolidating concrete (SCC) is gaining widespread acceptance in North America. Its performance characteristics include high fluidity and stability resulting in ease of placement and consolidation. The performance of SCC is dictated by the project requirements.

* Awards for 1st, 2nd, and 3rd place in the Student Concrete Cube Competition will be announced during the luncheon.

Menu: All American Deli Buffet, dessert, tea and coffee

*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
Women in ACI Reception
5:00 PM - 6:00 PM
Republic Foyer

Sponsored by ACI International

Join other women in ACI for an informal reception. 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.

123 Forum:
Structural Health Monitoring—Do Costs Justify Benefits?
7:30 PM - 10:00 PM
Back Bay D

Sponsored by Committee 123

Session Moderator: Mohammad S. Khan

Following its long tradition, ACI Committee 123 brings industry experts together again in Boston to debate another subject, this time, whether the costs associated with structural health monitoring justify its benefits. Structural health monitoring typically involves hundreds, or even thousands, of sensors attached or embedded to the structural elements of an existing or new structure and allows real-time monitoring of various deterioration parameters. However, the downside is that the process is extremely time-consuming and requires extensive software and hardware. The benefits of a carefully planned and installed health monitoring system are undeniable, but the question is whether the structure owners can afford such systems. Are the costs justified for certain critical structures, while for others traditional structural monitoring is the way to go? Is it reasonable to anticipate that with technological advancements, the complexities of health monitoring systems would be simplified and the costs would decrease in the future? Our panelists will address these and many other questions.
Special Events
Monday, September 29

✔ Contractor's Day Lunch
12:00 PM - 2:00 PM
$28US per person

Hosted by CLC and the ACI New England Chapter

Speaker: Steve M. Chamey
Managing Partner
New York Office
Peckar & Abramson
New York City, NY

Topic: Managing the Risks of Mold

Menu: Custom croissant plate, dessert, tea and coffee

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.

Concrete Mixer—Foods from the Neighborhoods of Boston
Grand Birm
6:30 PM - 8:00 PM

Sponsored by the ACI New England Chapter

Exchange ideas and meet others in the industry, while experiencing the flavors of Boston, with food from the neighborhoods of Beacon Hill, Faneuil Hall Marketplace, the North End, Chinatown, Back Bay, and the Boston Symphony of Sweets. Note: Beverages for this event must be paid for with drink tickets included in registration packet or with cash and cannot be charged to your room.

✔ Separate Fee Required
Special Events
Tuesday, September 30

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

Hosted by the International Committee

Speaker: Ronald Lee
Project Manager
John A. Martin & Associates
Los Angeles, CA

Title: The Engineering Challenges of The Ray and Maria Stata Center

The 430,000 ft² Stata Center is a visionary academic complex at MIT, designed by Pritzker Prize-winning architect Frank O. Gehry that demands creative structural engineering solutions to meet the challenges posed by the architecture. Only nine stories above ground with three stories below, the center houses many different functional facilities including two-tiered classrooms, a large auditorium, athletic facilities, a child care center, as well as research laboratories. As with Gehry’s other buildings, such as the Nationale-Nederlanden Building in the Czech Republic, and the Guggenheim Museum in Bilbao, Spain, the Stata Center has characteristics of amorphous form with deconstructive appearance (see the photograph). These characteristics provide challenging opportunities for the structural designer. The center is under construction on the MIT campus.

Menu: Italian North End style buffet, dessert, tea and coffee

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

✓ Separate Fee Required
Tour Highlights

Saturday, September 27, 2003
Introduction to Boston
2:00 PM - 4:00 PM
$69 US per person

Explore Boston and Cambridge, and Boston’s "Left Bank" with a fun and informative guide. You’ll see the neighborhoods of Boston, from the Victorian townhouses of the Back Bay to the elegant homes of Beacon Hill. Visit the shopper’s paradise that includes upscale Newbury Street, the urban discount district of Downtown Crossing, and the glitzy and fun boutiques of Quincy Market and Faneuil Hall Marketplace. Then take a trip across the Charles River on a swan boat to Cambridge and Harvard Universities, where you will explore historic Harvard Yard on foot and learn about the “Statue of Three Lies,” and visit Harry Elkins Widener Memorial Library. Also, see the world famous collection of hand blown glass plant models, known as "The Glass Flowers," in Harvard's Botanical Museum. This unique collection was created by glass artisans Leopold Blaschka and his son, Rudolph, from 1887-1936 and is the only one of its kind in the world. En route back to the hotel, stop for shopping and free time at Faneuil Hall Marketplace and taxi back on your own. (20 person minimum; 34 person maximum)

Sunday, September 28, 2003
9:00 AM - 12:00 PM and
Wednesday, October 1, 2003
1:00 PM - 4:00 PM
The Big Dig
$46 US per person

Tour the Central Artery Tunnel project, otherwise known as the "Big Dig." It is the largest and most technologically challenged highway project ever attempted in American history. This project includes a tunnel under the Boston Harbor, a 14-lane bridge, an 8 to 10 lane underground expressway, 7.5 miles of highway and 3.8 million cubic yards of concrete. Opportunities to view inside the Big Dig may be limited, as most openings will be closed, but there will be plenty to see above ground. (30 person minimum; 34 person maximum)

All tours depart from the Dalton Street Exit.
Tour Highlights

Sunday, September 28
Guest Tea
3:30 PM - 5:00 PM
Apropos Dining Rm

Join other ACI guests for this intimate gathering in the Apropos Dining Room, hosted by Mrs. Izquierdo-Encarnación.

Monday, September 29
In the Footsteps of JFK and Jackie
9:00 AM - 12:00 PM
$68US per person

Follow the path of one of our most celebrated statesmen, from his newly installed memorial statue on Beacon Hill to the John F. Kennedy Library and Museum. You will see a short film of JFK’s life and explore more than 20 exhibits featuring rare film and television footage, historic documents, personal family keepsakes, and treasures from the White House. Jackie’s wedding gown and engagement ring along with other wedding memorabilia will be on display. Because of its extreme delicacy, this is the last time that the wedding gown will be on public display. (20 person minimum; 34 person maximum)

Tuesday, September 30
Newport, Rhode Island
Where the Living is Easy
9:00 AM - 5:00 PM
$87US per person

Experience the grandeur of Newport, Rhode Island, first-hand. Start your day with a guided tour of the dazzling mansion, Marble House, one of 11 historic properties of the Preservation Society, which represents three centuries of American architecture, decorative arts, and history. As you pass by the Ocean Drive estates that are home to today’s Newport millionaires, your guide will share fascinating anecdotes about the Astors and the Vanderbilts and their friends and descendents who once made, and who continue to make, Newport the Queen of summer resorts. Enjoy lunch on your own at one of Newport’s historic taverns or oceanside seafood restaurants. Finish the day at The Astor’s Beechwood Mansion, where you will become a member of Newport’s elite society during the Victorian era. You’ll be treated as a member of America’s first social register, the famous “Four Hundred,” created by Mrs. Astor, as the costumed Gilded Era “upstairs and downstairs” characters curtsy to you and include you in their fun. (20 person minimum; 47 person maximum)

All tours depart from the Dalton Street Exit.
# Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

**Thursday, September 25**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>12:00PM - 10:00PM</td>
<td>TAC-RG1 TAC Review Group 1 M1</td>
<td>Beacon D</td>
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<tr>
<td></td>
<td>TAC-RG2 TAC Review Group 2 M1</td>
<td>Beacon F</td>
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<td></td>
<td>TAC-RG3 TAC Review Group 3 M1</td>
<td>Beacon G</td>
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<tr>
<td></td>
<td>TAC-RG4 TAC Review Group 4 M1</td>
<td>Beacon H</td>
</tr>
<tr>
<td>6:00PM - 10:00PM</td>
<td>TAC Technical Activities M1</td>
<td>Commonwealth</td>
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**Friday, September 26**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:00AM - 6:00PM</td>
<td>TAC Technical Activities M2</td>
<td>Commonwealth</td>
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<tr>
<td>8:30AM - 5:00PM</td>
<td>EAC Educational Activities M1</td>
<td>Beacon B</td>
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**Saturday, September 27**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:00AM - 5:00PM</td>
<td>TAC Technical Activities M3</td>
<td>Commonwealth</td>
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<tr>
<td>8:00AM - 10:00AM</td>
<td>440-H FRP-Reinforced Concrete</td>
<td>Fairfax A</td>
</tr>
<tr>
<td>8:00AM - 1:00PM</td>
<td>TAC-RG1 TAC Review Group 1 M2</td>
<td>Commonwealth</td>
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<tr>
<td></td>
<td>TAC-RG2 TAC Review Group 2 M2</td>
<td>Berkeley A</td>
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<tr>
<td></td>
<td>TAC-RG3 TAC Review Group 3 M2</td>
<td>Boardroom</td>
</tr>
<tr>
<td></td>
<td>TAC-RG4 TAC Review Group 4 M2</td>
<td>Conference Rm</td>
</tr>
<tr>
<td>8:30AM - 10:00AM</td>
<td>IC-Pub International-Publications/Website</td>
<td>TEC/Conference 5</td>
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<tr>
<td></td>
<td>232-A Natural-Pozzolans</td>
<td>Beacon C</td>
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<tr>
<td>8:30AM - 11:30AM</td>
<td>C640 Craftsman</td>
<td>Beacon B</td>
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<td></td>
<td>CLC Construction Liaison</td>
<td>TEC/Conference 7</td>
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<td>E801 Student Activities</td>
<td>Beacon E</td>
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<td></td>
<td>301-D Spec-Arcl, LWC, Mass, SCC</td>
<td>Berkeley B</td>
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<td></td>
<td>315-B Detailing-Constructibility</td>
<td>Clarendon</td>
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<td></td>
<td>353-C Env Str-Reinf &amp; Devel</td>
<td>Gardner B</td>
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<td></td>
<td>403 Bond &amp; Development</td>
<td>Independence E</td>
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<tr>
<td></td>
<td>533 Precast Panels</td>
<td>TEC/Conference 2</td>
</tr>
<tr>
<td>8:30AM - 1:00PM</td>
<td>301-C Spec-Mixtures, Place, Constr</td>
<td>TEC/Conference 4</td>
</tr>
<tr>
<td>8:30AM - 5:00PM</td>
<td>551 Tilt-Up</td>
<td>Beacon F</td>
</tr>
<tr>
<td>9:00AM - 11:00AM</td>
<td>IC-Conf International-Conferences</td>
<td>TEC/Conference 1</td>
</tr>
</tbody>
</table>
Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

Saturday, September 27—continued
9:00AM - 12:00PM
MEMC  Membership  TEC/Conference 6

10:00AM - 11:30AM
E701  Materials for Concrete Construction  Beacon D
IC-Rel  International-Relationships  TEC/Conference 5
325-D  Pavements-Materials and Tests  Beacon C
342  Bridge Evaluation  TEC/Conference 3

10:00AM - 12:00PM
440-M  FRP-Repair of Masonry Str  Fairfax A

10:00AM - 5:00PM
355  Anchorage  Gardner A

11:30AM - 1:00PM
C630-T  Transportation Inspector  TEC/Conference 7
HTC  Hot Topic  TEC/Conference 5
237  Self Consolidating Concrete M1  Beacon E
350-SC  Env Str-Steering Comm  Gardner B

Session
11:30AM - 1:00PM
Session Moderator Orientation Workshop  Independence W

11:30AM - 3:30PM
423  Prestressed  Back Bay C
506-B  Shotcreting-Fiber-Reinforced  Beacon H

12:00PM - 2:00PM
SUS  Sustaining Members  Independence E

1:00PM - 2:00PM
440-L  FRP-Durability  Fairfax A

1:00PM - 3:00PM
IC-Mem  International-Membership  TEC/Conference 7
TGCA  Task Group for Centennial Activities  Beacon B
231  Early-Age  Beacon G

1:00PM - 3:30PM
362-A  Parking Str-Standard  Beacon D

Session
1:00PM - 5:00PM
Student Concrete Cube Competition  Republic B

2:00PM - 3:30PM
IC-Cert  International Certification  Boardroom
E903  Convention Training  TEC/Conference 5
Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

Saturday, September 27—continued
2:00PM - 3:30PM-continued
365-A Standards Model Development TEC/Conference 1
439-A Steel Reinf-Wire Beacon E
544-A FRC-Production & Applications TEC/Conference 3

2:00PM - 5:00PM
RCC Responsibility Dalton
223 Nondestructive Testing M1 Fairfax A
301-A Spec-General Requirements Beacon C
301-E Spec-Prestressed Berkeley B
309 Consolidation TEC/Conference 6
315 Detailing TEC/Conference 4
333 Footings Fairfax B
343 Bridge Design Independence W
352 Joints Gardner B
379 Dynamic & Vibratory Effects Berkeley A
375 Design for Wind Loads Clarendon

Sessions
2:00PM - 5:00PM
★ FRP Composites for Internal Back Bay
   Reinforcement
★ Boston Central Artery Back Bay D
   Tunnel Project

2:30PM - 5:00PM
443-A Shear & Torsn-Strut & Tie Independence E

3:00PM - 4:00PM
TGCF Task Group for Centennial Funding Beacon B

3:30PM - 5:00PM
IC International Committee Beacon D
201-C Durability-Condition Survey Rpt TEC/Conference 7
224 Cracking TEC/Conference 1
237 Self-Consolidating Concrete M2 Back Bay C
332-TG3 Residential-Education Boardroom
341-C Equake Res Brdgs-Retrofit Beacon H
439-B Steel Reinf-Mechanical Splices Beacon E
503-D Shotcreting-Swimming Pools TEC/Conference 5
544-B FRC-Education TEC/Conference 3

Session
5:15PM - 6:30PM
Opening Session and the Hynes Blrm B
Lewis H. Tuthill Lecture Series

★ Denotes theme session
Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

Saturday, September 27—continued
6:30PM - 7:30PM
Welcome Reception Grand Blm

6:30PM - 9:00PM
318-TG2 Code-TG-Notation & Terminology Commonwealth

7:00PM - 8:30PM
318-TG1 Code-TG-Min Torsional Reinf Beacon C

Session
7:30PM - 9:30PM
Hot Topic—Specifications and Responsibilities for Crack Repair Back Bay D

7:30PM - 10:00PM
347-A Formwork-Specification Beacon D

Sunday, September 28
6:30AM - 8:15AM
Workshop for Technical Committee Chairs Commonwealth

7:00AM - 8:30AM
Speaker's Skill Training Breakfast: Preaching, Teaching, and Reaching Fairfax A

8:00AM - 10:00AM
TGSD Board Task Grp-Impact on Sus Dev Conference Rm

8:15AM - 9:15AM
440-D FRP-Research Gardner A

8:30AM - 10:00AM
341-A Equake Res Brdgs-Columns Beacon H
506-A Shotcreting-Evaluation TEC/Conference 5
546-A Repair-Underwater Beacon C
549-A Thin Reinforced-Applications Berkeley B

8:30 AM - 11:30 AM
C610 Field Technician Beacon B
117 Tolerances Fairfax B
303 Architectural CIP Beacon D
311 Inspection Beacon E
524 Plastering TEC/Conference 1
548-A Polymers-Overlays Independence W

8:30AM - 12:30PM
347 Formwork Beacon G
364-A Rehabilitation-Evaluation Clarendon
# Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

## Sunday, September 28—continued

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:30AM - 1:00PM</td>
<td>232 Fly Ash &amp; Natural Pozzolans</td>
<td>Independence E</td>
</tr>
<tr>
<td></td>
<td>313-B Code-Reinf/Development</td>
<td>Republic B</td>
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<td></td>
<td>313-C Code-Serviceability/Safety</td>
<td>TEC/Conference 3</td>
</tr>
<tr>
<td></td>
<td>313-D Code-Flexure &amp; Axial Loads</td>
<td>TEC/Conference 4</td>
</tr>
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<td></td>
<td>313-G Code-Prestressed Precast</td>
<td>TEC/Conference 2</td>
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</tr>
</thead>
<tbody>
<tr>
<td>8:30AM - 5:00PM</td>
<td>343-C Nuclear Str-Anchorage</td>
<td>Beacon F</td>
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<tr>
<td></td>
<td>543 Piles</td>
<td>Dalton</td>
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<tbody>
<tr>
<td>8:30AM - 6:30PM</td>
<td>350-D Env Str-Structural</td>
<td>Boardroom</td>
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<tr>
<td></td>
<td>350-E Env Str-Precast/Prestressed</td>
<td>Berkeley A</td>
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### Sessions

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<thead>
<tr>
<th>Time</th>
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<th>Location</th>
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<tbody>
<tr>
<td>9:00AM - 12:00PM</td>
<td>Research in Progress</td>
<td>Back Bay D</td>
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<tr>
<td></td>
<td>★ FRP Composites for External Reinforcement, Part I</td>
<td>Back Bay C</td>
</tr>
<tr>
<td></td>
<td>Pervious Concrete</td>
<td>Back Bay B</td>
</tr>
<tr>
<td></td>
<td>Seismic Versus Blast Comparison and Contrast of a Multi-Hazard Design</td>
<td>Back Bay A</td>
</tr>
<tr>
<td></td>
<td>New Developments and Techniques in Bond and Development of Reinforcement</td>
<td>Republic A</td>
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30AM - 12:30PM</td>
<td>369 Seismic Rehab</td>
<td>TEC/Conference 6</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>10:00AM - 11:30AM</td>
<td>E803 Faculty Network Coordinating</td>
<td>Fairfax A</td>
</tr>
<tr>
<td></td>
<td>341-B Earthquake Res Brdg-Pier Walls</td>
<td>Beacon H</td>
</tr>
<tr>
<td></td>
<td>421 Reinforced Slabs</td>
<td>Conference Rm</td>
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<table>
<thead>
<tr>
<th>Time</th>
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<th>Location</th>
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<tbody>
<tr>
<td>10:00AM - 12:00PM</td>
<td>503-E Shotcreting-Specifications</td>
<td>TEC/Conference 5</td>
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>10:00AM - 1:00PM</td>
<td>211-D Proportioning-High Strength</td>
<td>Gardner A</td>
</tr>
<tr>
<td></td>
<td>445-C Shear &amp; Torsn-Punching Shear</td>
<td>TEC/Conference 7</td>
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<tr>
<td></td>
<td>543-B Repair-Material Selection Guide</td>
<td>Beacon C</td>
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</table>

★ Denotes theme session
Program at a Glance

All schedule and location changes will be posted at the
ACI Registration Desk daily.

Sunday, September 28—continued
11:30AM - 1:00PM
DLTG  Distance Learning Task Group  TEC/Conference 1
E706   Repair Application Procedures  Beacon E
201-D  Durability-Oversight  Beacon H
345    Bridge Construction  Conference Room
548-B  Polymers-Sulfur Concrete  Berkeley B
549    Thin Reinforced  Beacon D

Session
11:30AM - 1:00PM
Session Moderator Orientation  Independence W Workshop

11:30AM - 1:30PM
341    Earthquake-Resistant Bridges  Fairfax A

11:30AM - 2:00PM
207    Mass Concrete  Beacon B

12:00PM - 2:00PM
✓ Student Luncheon  Commonwealth

12:30PM - 2:00PM
440-I  FRP-Prestressed Concrete  TEC/Conference 6

1:00PM - 2:30PM
506-C  Shotcreting-Guide  TEC/Conference 5

2:00PM - 3:30PM
INT ADV Internet Advisory  TEC/Conference 1
121    Quality Assurance  Independence E
215    Fatigue  Gardner A
544-E  FRC-Mechanical Properties  Independence W
548-C  Polymers-Str Design & Analysis  Berkeley B

2:00PM - 5:00PM
MKTC  Marketing  TEC/Conference 7
212    Chemical Admixtures  TEC/Conference 6
236-A  Material Science-Workability  Beacon B
305    Hot Weather  Fairfax A
335    Composite-Hybrid  Beacon E
350-K  Env Str-Hazardous Materials  Beacon C
362    Parking Structures  Clarendon
441    Columns  Beacon H
444    Experimental Analysis  Fairfax B
546-C  Repair-Guide  Beacon D
550    Precast Structures  Beacon G

✓ Separate fee required
# Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

## Sunday, September 28—continued

### Sessions

#### 2:00PM - 5:00PM

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Location</th>
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<tbody>
<tr>
<td>2:00PM</td>
<td>Limits on Concrete Temperature and the Environment During Curing</td>
<td>Back Bay A</td>
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<tr>
<td>2:00PM</td>
<td>Applications of Fiber-Reinforced Concrete in Highway Bridges</td>
<td>Back Bay B</td>
</tr>
<tr>
<td>2:00PM</td>
<td>FRP Composites for External Reinforcement, Part II</td>
<td>Back Bay C</td>
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<tr>
<td>2:00PM</td>
<td>Emerging Technologies in Civil Infrastructure Applications</td>
<td>Back Bay D</td>
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<tr>
<td>2:00PM</td>
<td>Foundations for Vibrating Machinery</td>
<td>Republic A</td>
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#### 2:00PM - 6:30PM

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
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<tbody>
<tr>
<td>2:00PM</td>
<td>Code-General Concrete Constr</td>
<td>TEC/Conference 2</td>
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<tr>
<td>2:00PM</td>
<td>Code-Shear &amp; Torsion</td>
<td>TEC/Conference 3</td>
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<tr>
<td>2:00PM</td>
<td>New Mat. Products &amp; Ideas</td>
<td>TEC/Conference 4</td>
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<tr>
<td>2:00PM</td>
<td>Code-Seismic Provisions</td>
<td>Republic B</td>
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<tr>
<td>2:00PM</td>
<td>Env Str-Durability</td>
<td>Conference Rm</td>
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#### 2:30PM - 5:00PM

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>2:30PM</td>
<td>Design Aids</td>
<td>TEC/Conference 5</td>
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#### 3:30PM - 5:00PM

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Location</th>
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<tbody>
<tr>
<td>3:30PM</td>
<td>Tilt-Up</td>
<td>TEC/Conference 1</td>
</tr>
<tr>
<td>3:30PM</td>
<td>FRC-Durability</td>
<td>Independence W</td>
</tr>
<tr>
<td>3:30PM</td>
<td>Polymers-Task Group Modified Doc</td>
<td>Berkeley B</td>
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#### 3:30PM - 6:30PM

<table>
<thead>
<tr>
<th>Time</th>
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<th>Location</th>
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<tbody>
<tr>
<td>3:30PM</td>
<td>Strength Evaluation</td>
<td>Independence E</td>
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<tr>
<td>3:30PM</td>
<td>Shear &amp; Torsn-DOA Torsion</td>
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#### 5:00PM - 6:00PM

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>5:00PM</td>
<td>Women in ACI Reception</td>
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#### 5:00 PM - 6:30 PM

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<th>Time</th>
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<tr>
<td>5:00PM</td>
<td>Laboratory Tech Cert</td>
<td>TEC/Conference 1</td>
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<td>5:00PM</td>
<td>Designing Concrete Structures</td>
<td>TEC/Conference 5</td>
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<tr>
<td>5:00PM</td>
<td>Research</td>
<td>Berkeley B</td>
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<tr>
<td>5:00PM</td>
<td>Proportioning-Self Consolidating</td>
<td>Beacon E</td>
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<tr>
<td>5:00PM</td>
<td>Material Science</td>
<td>Beacon B</td>
</tr>
<tr>
<td>5:00PM</td>
<td>Env Str-Education</td>
<td>Beacon C</td>
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<tr>
<td>5:00PM</td>
<td>Deflection</td>
<td>Fairfax B</td>
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<tr>
<td>5:00PM</td>
<td>FRP-Repair-Strengthening</td>
<td>Fairfax A</td>
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<td>5:00PM</td>
<td>Finite Element Analysis</td>
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<td>5:00PM</td>
<td>FRC-Testing</td>
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<td>5:00PM</td>
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★ Denotes theme session
### Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

#### Sunday, September 28—continued

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>5:00PM - 7:30PM</td>
<td>506-F</td>
<td>Shotcreting-Underground</td>
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<tr>
<td>5:00PM - 10:00PM</td>
<td>355-TG</td>
<td>Anchorage-Task Group</td>
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<tr>
<td>7:00PM - 9:30PM</td>
<td>TRRC</td>
<td>TAC Repair &amp; Rehab</td>
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#### Session

<table>
<thead>
<tr>
<th>Time</th>
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<th>Location</th>
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<tbody>
<tr>
<td>7:30PM - 10:00PM</td>
<td>123 Forum: Structural Health Monitoring—Do Costs Justify Benefits?</td>
<td>Back Bay D</td>
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#### Monday, September 29

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:00AM - 8:30AM</td>
<td>TMC</td>
<td>TAC Metrciation</td>
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<tr>
<td>7:00AM - 9:00 AM</td>
<td>TTTC</td>
<td>TAC Technology Transfer</td>
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<td>7:00AM - 12:00PM</td>
<td>EAC</td>
<td>Educational Activities M2</td>
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#### Session

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<thead>
<tr>
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<tbody>
<tr>
<td>7:30 AM - 8:30 AM</td>
<td>Chapter Forum: How to Host a Convention</td>
<td>Fairfax A</td>
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<tr>
<td>8:30AM - 10:00AM</td>
<td>C630</td>
<td>Construction Inspector</td>
</tr>
<tr>
<td>8:30AM - 10:00AM</td>
<td>E804</td>
<td>Edu Awards Nomination Committee</td>
</tr>
<tr>
<td>8:30AM - 10:00AM</td>
<td>118</td>
<td>Computers</td>
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<tr>
<td>8:30AM - 10:00AM</td>
<td>213-B</td>
<td>Lightweight-By-Product Agg</td>
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<tr>
<td>8:30AM - 10:00AM</td>
<td>223-B</td>
<td>Shr Compensating-Field Meas</td>
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<tr>
<td>8:30AM - 10:00AM</td>
<td>332-TG2</td>
<td>Residential-Standard M1</td>
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<tr>
<td>8:30AM - 10:00AM</td>
<td>350-G</td>
<td>Env Str-Tightness Testing</td>
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<tr>
<td>8:30AM - 10:30AM</td>
<td>506</td>
<td>Shotcreting</td>
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<tr>
<td>8:30AM - 11:30AM</td>
<td>CAC</td>
<td>Chapter Activities</td>
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<tr>
<td>8:30AM - 11:30AM</td>
<td>201</td>
<td>Durability</td>
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<tr>
<td>8:30AM - 11:30AM</td>
<td>209</td>
<td>Creep &amp; Shrinkage</td>
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<tr>
<td>8:30AM - 11:30AM</td>
<td>235</td>
<td>Knowledge-Based Systems</td>
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</table>
## Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

### Monday, September 29—continued

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:30AM - 11:30AM</td>
<td>351-A Equip Fdns-Static Fdns</td>
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<tr>
<td></td>
<td>Berkeley B</td>
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<td></td>
<td>357 Offshore &amp; Marine</td>
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<td>Beacon H</td>
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<td></td>
<td>522 Pervious Concrete</td>
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<td>Beacon F</td>
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<td>546 Repair</td>
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<td>Beacon G</td>
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<td>548 Polymers</td>
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<td>TEC/Conference 4</td>
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<td>552 Cement Grouting</td>
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<td>Beacon D</td>
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<td>8:30AM - 1:00PM</td>
<td>302 Floor Construction</td>
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<td>Gardner A &amp; B</td>
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<tr>
<td>8:30AM - 6:30PM</td>
<td>318 Building Code M2</td>
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<td>Back Bay C</td>
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<td>350-F Env Str-Seismic</td>
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<td>Boardroom</td>
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<td>9:00AM - 10:00AM</td>
<td>440-C FRP State-of-Art</td>
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<td>TEC/Conference 2</td>
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<tr>
<td><strong>Sessions</strong></td>
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<tr>
<td>9:00AM - 12:00PM</td>
<td><strong>Contractor’s Day: Anatomy of a Slab Problem—Diagnosis to Repair</strong></td>
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<td>Back Bay D</td>
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<td><strong>Responsibility in Concrete Construction</strong></td>
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<td>Independence E</td>
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<td><strong>Roller-Compacted Concrete Pavements</strong></td>
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<td>Independence W</td>
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<td><strong>Interactions Between Admixtures and Cementitious Materials</strong></td>
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<td>Republic A</td>
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<td>10:00AM - 11:30AM</td>
<td>E802 Teaching Methods and Edu Mat</td>
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<td>TEC/Conference 2</td>
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<td>223-C Shr Compensating-Constr</td>
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<td>Clarendon</td>
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<td>225 Hydraulic Cements</td>
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<td>Fairfax B</td>
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<td>350-H Env Str-Editorial</td>
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<td>Conference Rm</td>
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<td>503 Adhesives</td>
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<td>TEC/Conference 7</td>
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<tr>
<td>10:00AM - 12:30PM</td>
<td>216 Fire Resistance</td>
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<td>Beacon E</td>
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<tr>
<td>10:00AM - 1:00PM</td>
<td>C660 Shotcrete Nozzleman M1</td>
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<td>TEC/Conference 1</td>
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<td>349-A&amp;B Nuclear Str-Design &amp; Materials</td>
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<td>440-K FRP-Material Characteristics</td>
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<td>TEC/Conference 6</td>
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<tr>
<td>10:30AM - 12:30PM</td>
<td>CRC Concrete Research Council</td>
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<td>Republic B</td>
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</table>
Program at a Glance

All schedule and location changes will be posted at the
ACI Registration Desk daily.

**Monday, September 29—continued**

**11:00AM - 12:00PM**
SDC Strategic Development Council Beacon C

**11:30AM - 1:00PM**
116 Terminology & Notation Beacon F
207-A Mass Concrete-RCC in Dams TEC/Conference 7
211-C Proportioning-No Slump Beacon H
211-E Proportioning-Evaluation Beacon G
213 Lightweight Fairfax B
221 Aggregates TEC/Conference 3
332-TG2 Residential-Standard M2 Beacon D
334 Shells Dalton
346 CIP Pipe Clarendon
439 Steel Reinforcement TEC/Conference 2
515 Protective Systems TEC/Conference 4

**11:30AM - 3:30PM**
350-A Env Str-General & Concrete Conference Rm

**12:00PM - 1:00PM**
124 Aesthetics Beacon B

**12:00PM - 2:00PM**
✓ Contractor's Day Lunch Commonwealth

**1:00PM - 4:00PM**
440 Fiber Reinforced Polymer Gardner A & B

**2:00PM - 3:30PM**
SCO Scholarship Council (ConREF) Beacon C
120 History Beacon E
544-D FRC-Structural Uses TEC/Conference 3

**2:00PM - 5:00PM**
CPC Certification Programs TEC/Conference 1
E703 Concrete Construction Practices TEC/Conference 5
211-A Proportioning-Editorial TEC/Conference 7
222 Corrosion TEC/Conference 4
223 Shrinkage-Compensating TEC/Conference 2
229 Controlled Low-Strength Beacon G
234 Silica Fume Clarendon
325-C Pavements-RCC Fairfax B
330 Parking Lots & Site Paving Dalton
349 Nuclear Structures Beacon D
351 Equip Foundations Beacon B
364 Rehabilitation Beacon F
372 Prestressed/Wire-Wrapped Beacon H

✓ Separate fee required
Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

Monday, September 29—continued

2:00PM - 5:00PM

Sessions

Contractor’s Day: Innovative Precast Framing Systems from Theory to Practice

Open Paper Session

Polymer Concrete Structural Design, Overlay Applications, and Quality Control

Shrinkage and Creep of Concretes Containing Shrinkage-Reducing Admixtures (SRAs)

Colloidal Aspects of Cement Paste

2:00PM - 6:30PM

360 Slabs on Ground

3:00PM - 5:00PM

CC Convention Committee

3:30PM - 5:00PM

214 Strength Tests

303-C Curing-Accelerated

446 Fracture Mechanics

3:30PM - 5:30PM

544 Fiber Reinforced Concrete

3:30PM - 6:30PM

332-TG2 Residential-Standard M3

350-L Env Str-Specifications

5:00PM - 6:30PM

303-D Curing-HPC

348 Safety

363-A High-Strength State-of-Art-Report

5:00PM - 8:00PM

C660 Shotcrete Nozzleman M2

6:30PM - 8:00PM

Concrete Mixer
Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

**Tuesday, September 30**

**Session**

7:00AM - 8:30AM
Faculty Network Breakfast
Commonwealth

7:00AM - 10:00AM
TSC TAC Specifications
Gardner A

8:30AM - 10:00AM
PUBC Publications
TEC/Conference 1
TAC TG on Tolerances
Conference Rm
230 Soil Cement
TEC/Conference 4
304 Measuring/Mix/Trans/Placing
Republic B
445-B Shear & Tors-Shear Seismic Shear
TEC/Conference 3
523-A Cellular-Autoclaved Aerated
Clarendon

8:30AM - 11:30AM
E601 Seminar Oversight Committee
TEC/Conference 5
306 Cold Weather
Berkeley B
308-B Curing-Specifications
Dalton
318-S Spanish Translation
Berkeley A
318-TG3 Code-TG-Slender Columns
Fairfax B
325-A Pavements-Design
Gardner B
504 Joint Sealants & Bearing Systems
TEC/Conference 6

8:30AM - 1:00PM
332 Residential Concrete
Republic A

8:30AM - 6:30PM
350 Environmental Structures
Back Bay C

9:00AM - 12:00PM
373 Prestressed/Tendons
Fairfax A

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

Factors Involved in Strength
Design of Footings

Selection of Materials for
Concrete Repair

Fracture Mechanics: Testing
and Applications

9:00AM - 5:00PM
355-fib Fastenings to Concrete M1
TEC/Conference 2

10:00AM - 11:30AM
523 Cellular Concrete
Clarendon
Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

Tuesday, September 30—continued

10:00AM - 12:00PM
IC-SC Intl Conference Steering Committee TEC/Conference 1
363 High-Strength TEC/Conference 4

10:00AM - 1:00PM
365 Service Life TEC/Conference 3

10:30AM - 6:00PM
301 Specifications Republic B
325-B Pavements-Overlays Gardner B
Cryogenic Applications (Organizational Mtg) TEC/Conference 6

11:30AM - 1:00PM
IJEPR Intl Joints & Bearings Fairfax B
303-A Curing-Guide Dalton
325-B Pavements-Overlays Gardner B
Cryogenic Applications (Organizational Mtg) TEC/Conference 6

11:30AM - 2:00PM
445 Shear & Torsion Clarendon

12:00PM - 2:00PM
✓ International Luncheon Commonwealth

12:00PM - 6:00PM
ITG-4 ITG4-Seismic Applications TEC/Conference 5

2:00PM - 3:30PM
211-B Proportioning-Lightweight Clarendon
211-G Proportioning-Shrinkage Component Dalton
371 Water Towers Republic A

2:00PM - 5:00PM
233 Ground Slag TEC/Conference 6
303 Curing Fairfax B
318-W 318 Intl Workshop Planning Berkeley B
374 Seismic Design Fairfax A

2:00PM - 5:00PM
Sessions
Updating Cold Weather Independence E
Concreting Practices

Aerated Autoclaved Concrete—Independence W
An Innovative Building Solution

✓ Separate fee required
Program at a Glance

All schedule and location changes will be posted at the ACI Registration Desk daily.

Tuesday, September 30—continued
2:00PM - 6:30PM
307 Chimneys
3:30PM - 6:30PM
211 Proportioning
5:00PM - 6:30PM
325 Pavements

Wednesday, October 1
7:45AM - 5:00PM
Session
✓ ACI Educational Seminar: Seismic and Wind Design Considerations for Concrete Buildings

9:00AM - 5:00PM
355-fib Fastenings to Concrete M2

10:00AM - 5:00PM
BOD Board of Direction

Gardner B
TEC/Conference 4
TEC/Conference 2
Independence W
Commonwealth
Fairfax

✓ Separate fee required
<table>
<thead>
<tr>
<th>COMM</th>
<th>COMMITTEE TITLE</th>
<th>DAY</th>
<th>TIME</th>
<th>ROOM</th>
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<tbody>
<tr>
<td>BOD</td>
<td>Board of Direction</td>
<td>Wed</td>
<td>10:00 AM-5:00 PM</td>
<td>Fairfax</td>
</tr>
<tr>
<td>C6</td>
<td>Field Technician</td>
<td>Sun</td>
<td>8:30 AM-11:30 AM</td>
<td>Beacon B</td>
</tr>
<tr>
<td>C62</td>
<td>Laboratory Tech Cert</td>
<td>Sun</td>
<td>5:00 PM-6:30 PM</td>
<td>TEC/Conference 1</td>
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<tr>
<td>C63</td>
<td>Construction Inspector</td>
<td>Mon</td>
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</tr>
<tr>
<td>440-M</td>
<td>FRP-Repair of Masonry Str</td>
<td>Sat</td>
<td>10:00 AM-12:00 PM</td>
<td>Fairfax A</td>
</tr>
<tr>
<td>441</td>
<td>Columns</td>
<td>Sun</td>
<td>2:00 PM-5:00 PM</td>
<td>Beacon H</td>
</tr>
<tr>
<td>444</td>
<td>Experimental Analysis</td>
<td>Tue</td>
<td>11:30 AM-2:00 PM</td>
<td>Clarendon</td>
</tr>
<tr>
<td>445</td>
<td>Shear &amp; Torsion</td>
<td>Sat</td>
<td>2:30 PM-5:00 PM</td>
<td>Independence E</td>
</tr>
<tr>
<td>445-A</td>
<td>Shear &amp; Tors-Strut &amp; Tie</td>
<td>Tue</td>
<td>8:30 AM-10:00 AM</td>
<td>TEC/Conference 3</td>
</tr>
<tr>
<td>COMM</td>
<td>COMMITTEE TITLE</td>
<td>DAY</td>
<td>TIME</td>
<td>ROOM</td>
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</tr>
<tr>
<td>445-C</td>
<td>Shear &amp; Torsion-Punching Shear</td>
<td>Sun</td>
<td>10:00 AM-1:00 PM</td>
<td>TEC/Conference 7</td>
</tr>
<tr>
<td>445-E</td>
<td>Shear &amp; Torsion-SOA Torsion</td>
<td>Sun</td>
<td>3:30 PM-6:30 PM</td>
<td>Gardner A</td>
</tr>
<tr>
<td>446</td>
<td>Fracture Mechanics</td>
<td>Mon</td>
<td>3:30 PM-5:00 PM</td>
<td>TEC/Conference 3</td>
</tr>
<tr>
<td>447</td>
<td>Finite Element Analysis</td>
<td>Sun</td>
<td>5:00 PM-6:30 PM</td>
<td>Beacon F</td>
</tr>
<tr>
<td>503</td>
<td>Adhesives</td>
<td>Mon</td>
<td>10:00 AM-11:30 AM</td>
<td>TEC/Conference 7</td>
</tr>
<tr>
<td>504</td>
<td>Joint Sealants &amp; Bearing Systems</td>
<td>Tue</td>
<td>8:30 AM-11:30 AM</td>
<td>TEC/Conference 6</td>
</tr>
<tr>
<td>506</td>
<td>Shotcrete</td>
<td>Mon</td>
<td>8:30 AM-10:30 AM</td>
<td>Republic B</td>
</tr>
<tr>
<td>506-A</td>
<td>Shotcrete-Evaluation</td>
<td>Sun</td>
<td>8:30 AM-10:00 AM</td>
<td>TEC/Conference 5</td>
</tr>
<tr>
<td>506-B</td>
<td>Shotcrete-Fiber-Reinforced</td>
<td>Sat</td>
<td>11:30 AM-3:30 PM</td>
<td>Beacon H</td>
</tr>
<tr>
<td>506-C</td>
<td>Shotcrete-Guide</td>
<td>Sun</td>
<td>1:00 PM-2:30 PM</td>
<td>TEC/Conference 5</td>
</tr>
<tr>
<td>506-D</td>
<td>Shotcrete-Swimming Pools</td>
<td>Sat</td>
<td>3:30 PM-5:00 PM</td>
<td>TEC/Conference 5</td>
</tr>
<tr>
<td>506-E</td>
<td>Shotcrete-Specifications</td>
<td>Sun</td>
<td>10:00 AM-12:00 PM</td>
<td>TEC/Conference 5</td>
</tr>
<tr>
<td>506-F</td>
<td>Shotcrete-Underground</td>
<td>Sun</td>
<td>5:00 PM-7:30 PM</td>
<td>Beacon G</td>
</tr>
<tr>
<td>515</td>
<td>Protective Systems</td>
<td>Mon</td>
<td>11:30 AM-1:00 PM</td>
<td>TEC/Conference 4</td>
</tr>
<tr>
<td>522</td>
<td>Pervious Concrete</td>
<td>Mon</td>
<td>8:30 AM-11:30 AM</td>
<td>Beacon F</td>
</tr>
<tr>
<td>523</td>
<td>Cellular Concrete</td>
<td>Tue</td>
<td>10:00 AM-11:30 AM</td>
<td>Clarendon</td>
</tr>
<tr>
<td>523-A</td>
<td>Cellular-Autoclaved Aerated</td>
<td>Tue</td>
<td>8:30 AM-10:00 AM</td>
<td>Clarendon</td>
</tr>
<tr>
<td>524</td>
<td>Plastering</td>
<td>Sun</td>
<td>8:30 AM-11:30 AM</td>
<td>TEC/Conference 1</td>
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<tr>
<td>533</td>
<td>Precast Panels</td>
<td>Sat</td>
<td>8:30 AM-11:30 AM</td>
<td>TEC/Conference 2</td>
</tr>
<tr>
<td>543</td>
<td>Piles</td>
<td>Sun</td>
<td>8:30 AM-5:00 PM</td>
<td>Dalton</td>
</tr>
<tr>
<td>544</td>
<td>Fiber Reinforced Concrete</td>
<td>Mon</td>
<td>3:30 PM-5:30 PM</td>
<td>Commonwealth</td>
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<tr>
<td>544-A</td>
<td>FRC-Production &amp; Applications</td>
<td>Sat</td>
<td>2:00 PM-3:30 PM</td>
<td>TEC/Conference 3</td>
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<tr>
<td>544-B</td>
<td>FRC-Education</td>
<td>Sat</td>
<td>3:30 PM-5:00 PM</td>
<td>TEC/Conference 3</td>
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<tr>
<td>544-C</td>
<td>FRC-Testing</td>
<td>Sun</td>
<td>5:00 PM-6:30 PM</td>
<td>Independence W</td>
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<tr>
<td>544-D</td>
<td>FRC-Structural Uses</td>
<td>Mon</td>
<td>2:00 PM-3:30 PM</td>
<td>TEC/Conference 3</td>
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<tr>
<td>544-E</td>
<td>FRC-Mechanical Properties</td>
<td>Sun</td>
<td>2:00 PM-3:30 PM</td>
<td>Independence W</td>
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<tr>
<td>544-F</td>
<td>FRC-Durability</td>
<td>Sun</td>
<td>3:30 PM-5:00 PM</td>
<td>Independence W</td>
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<tr>
<td>546</td>
<td>Repair</td>
<td>Mon</td>
<td>8:30 AM-11:30 AM</td>
<td>Beacon G</td>
</tr>
<tr>
<td>546-A</td>
<td>Repair-Underwater</td>
<td>Sun</td>
<td>8:30 AM-10:00 AM</td>
<td>Beacon C</td>
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<tr>
<td>546-B</td>
<td>Repair-Material Selection Guide</td>
<td>Sun</td>
<td>10:00 AM-1:00 PM</td>
<td>Beacon C</td>
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<tr>
<td>546-C</td>
<td>Repair-Guide</td>
<td>Sun</td>
<td>2:00 PM-5:00 PM</td>
<td>Beacon D</td>
</tr>
<tr>
<td>548</td>
<td>Polymers</td>
<td>Mon</td>
<td>8:30 AM-11:30 AM</td>
<td>TEC/Conference 4</td>
</tr>
<tr>
<td>548-A</td>
<td>Polymers-Overlays</td>
<td>Sun</td>
<td>8:30 AM-11:30 AM</td>
<td>Independence W</td>
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<tr>
<td>548-B</td>
<td>Polymers-Sulfur Concrete</td>
<td>Sun</td>
<td>11:30 AM-1:00 PM</td>
<td>Berkeley B</td>
</tr>
<tr>
<td>548-C</td>
<td>Polymers-Sur Design &amp; Analysis</td>
<td>Sun</td>
<td>2:00 PM-3:30 PM</td>
<td>Berkeley B</td>
</tr>
<tr>
<td>548-TG</td>
<td>Polymers-Task Grip Modified Doc</td>
<td>Sun</td>
<td>3:30 PM-5:00 PM</td>
<td>Berkeley B</td>
</tr>
<tr>
<td>549</td>
<td>Thin Reinforced</td>
<td>Sun</td>
<td>11:30 AM-1:00 PM</td>
<td>Beacon D</td>
</tr>
<tr>
<td>549-A</td>
<td>Thin Reinforced-Applications</td>
<td>Sun</td>
<td>8:30 AM-10:00 AM</td>
<td>Berkeley B</td>
</tr>
<tr>
<td>550</td>
<td>Precast Structures</td>
<td>Sun</td>
<td>2:00 PM-5:00 PM</td>
<td>Beacon G</td>
</tr>
<tr>
<td>551</td>
<td>Tilt-Up</td>
<td>Sat</td>
<td>8:30 AM-5:00 PM</td>
<td>Beacon F</td>
</tr>
<tr>
<td>552</td>
<td>Cement Grouting</td>
<td>Mon</td>
<td>8:30 AM-11:30 AM</td>
<td>Beacon D</td>
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<tr>
<td>555</td>
<td>Recycled</td>
<td>Sun</td>
<td>5:00 PM-6:30 PM</td>
<td>Beacon D</td>
</tr>
<tr>
<td>Cryogenic Applications (Organizational Mtg)</td>
<td>Tue</td>
<td>11:30 AM-1:00 PM</td>
<td>TEC/Conference 6</td>
<td></td>
</tr>
</tbody>
</table>
Saturday, September 27

11:30 AM - 1:00 PM

Session Moderator
Orientation Workshop

Independence W

Sponsored by Committee E903

Session Moderator: David G. Kittridge
Consultant
Maitland, FL

Session Co-Moderators: 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

Ensuring that all ACI session moderators understand the duties and responsibilities of moderating a session is one of the goals of this workshop, 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. All moderators of technical and educational sessions are required by TAC and EAC to attend one of these orientation workshops before their scheduled session. This workshop is also offered on Sunday, September 28.
11:30 AM - 5:00 PM

Student Concrete Cube Competition

Sponsored by Committee E802 and the ACI New England Chapter

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

Kurt G. Benedict
Associate Professor
Department of Civil, Construction and Environment
Wentworth Institute of Technology
Boston, MA

Introduction 1:00 PM

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

Student Concrete Cube Competition 1:05 PM

The objective of this competition is to produce a concrete cube that achieves, as closely as possible, a target design strength of 40 MPa and a target mass of 220 g per cube (moderately lightweight concrete).
Saturday, September 27

2:00 PM - 5:00 PM

★ FRP Composites for Internal Reinforcement

Back Bay B

Sponsored by Committee 440

Session Moderator: Vicki L. Brown
Associate Professor & Chair
Department of Civil Engineering
Widener University
Chester, PA

Session Co-Moderator: Renato Parretti
Structural Engineer
Co-Force America, Inc.
Rolla, MO

Introduction

Sami H. Rizkalla, Distinguished Professor, Department of Civil Engineering & Construction, North Carolina State University, Raleigh, NC

FRP Reinforced Concrete in Texas
Transportation—Past, Present, and Future
Tim Bradberry, Engineer-Manager, Texas Department of Transportation Bridge Division, TXDOT, Austin, TX; and S. Wallace, Carter & Burgess Inc.

Design and Testing of Highway Concrete Bridge Deck Reinforced with Glass and Carbon FRP Bars
E. El-Salakawy, Research Assistant Professor, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, QC, Canada; and Brahim Benmokrane, University of Sherbrooke

CFRP Prestressed Concrete Lighting Columns
Giovanni P. Terrasi, Head of R&D/Engineering Department, SACAC AG, Switzerland; and J. M. Lees, University of Cambridge

★ Denotes theme session
Saturday, September 27

2:00 PM - 5:00 PM

★ FRP Composites for Internal Reinforcement

Continued

FRP for Prestressing of Concrete Bridges in Canada
Sami H. Rizkalla, Distinguished Professor, Department of Civil Engineering & Construction, North Carolina State University, Raleigh, NC; and G. Tadros, ISIS Canada

Production Testing of CFRP Grid Reinforced Concrete Panels for a Floating Pier
Markus Wernli, Project Engineer, BERGER/ABAM Engineers Inc., Federal Way, WA; Robert F. Mast, BERGER/ABAM Engineers Inc.; and G. E. Warren, Naval Facilities Engineering Service Center

GFRP Connector and Partially Precast Concrete Sandwich Panel System
Ralf Gastmeyer, Partner, Riedel und Gastmeyer Partnerschaft, Lichtenstein; and Rex C. Donahey, Composite Technologies Corp.

Preliminary Performance Observations for an FRP Reinforced Concrete Bridge Deck
A. A. Huckelbridge, Associate Professor of Civil Engineering, Case Western Reserve University, Cleveland, OH; and A. K. Eitel, Case Western Reserve University

★ Denotes theme session
Saturday, September 27

2:00 PM - 5:00 PM

* Boston Central Artery Tunnel Project

Back Bay D

Sponsored by the ACI New England Chapter

Session Moderator: Marcia Kelly
Senior Structural Engineer
Earth Tech
Concord, MA

Session Co-Moderator: Daniel C. Jansen
Assistant Professor
Department of Civil Engineering
Tufts University
Medford, MA

Introduction 2:00 PM
Marcia Kelly, Senior Structural Engineer, Earth Tech, Concord, MA

The Central Artery Tunnel Project 2:05 PM
Matthew R. Dindio, Public Affairs Specialist, Massachusetts Turnpike Authority, Boston, MA

Design of the Leonard P. Zakim Bunker Hill Bridge 2:35 PM
Sena Kumarasena, Deputy Project Manager, HNTB, Boston, MA

Construction of the Leonard P. Zakim Bunker Hill Bridge 3:05 PM
Paul Giroux, Assistant Project Manager, Kiewit, Medway, MA

Design of the Fort Point Channel Crossing 4:05 PM
Mike Haire, Assistant Project Manager, Gannett Fleming, Braintree, MA; and Paul Smith, Gannett Fleming, Braintree

Construction of the Fort Point Channel Crossing 4:35 PM

* Denotes theme session

64
5:15 PM - 6:30 PM

Opening Session and the Lewis H. Tuthill Lecture Series

Hynes Blrm B

Sponsored by ACI International

Kick off the Fall Convention by attending this opening event. Gather with other ACI attendees to help recognize chapters, international attendees, and students. Please note: You must wear your name badge to enter the Hynes Convention Center.

Speaker: James S. Pierce
Chief
Water Resources
Services Division
Technical Service Center
Bureau of Reclamation
Littleton, CO

Topic: Tut's Treasures: A Legacy of Continuing Value for the New Century

One of Lewis Tuthill's main concerns throughout his career was quality concrete construction. Tut's treasure was his lasting contributions to the literature, including the early editions of ACI SP-1, the Concrete Primer, major portions of several other ACI publications, and the Bureau of Reclamation's Concrete Manual. During this presentation, Mr. Pierce will review current quality control practices and challenge the industry to uphold Tut's legacy.
Saturday, September 27

6:30 PM - 7:30 PM

Welcome Reception

Grand Bldg

Sponsored by the ACI New England Chapter

Start your convention week by visiting the exhibit booths, meeting other attendees and interacting with other top industry professionals. A cash bar and light snacks will be available to keep you going during this jam-packed networking hour.

Following the reception, head out to dinner to one of Boston's fine restaurants. See the concierge for reservations. **Note:** Beverages for this event must be paid for with cash and cannot be charged to your room.
7:30 PM - 9:30 PM

Hot Topic—Specifications and Responsibilities for Crack Repair

Sponsored by the Hot Topic Committee and the ACI New England Chapter

Session Moderator: John C. Hukey
Technical Services
Cement and Chemical Products
Dayton Superior Construction Products Group
Kansas City, KS

Introduction 7:30 PM
John C. Hukey, Technical Services, Cement and Chemical Products, Dayton Superior Construction Products Group, Kansas City, KS

Specifications and Responsibilities for Crack Repair: From a Contractor's Point of View 7:35 PM
Kim D. Basham, Senior Structural Engineer, Structural Services, Inc., Cheyenne, WY

Specifications and Responsibilities for Crack Repair: From a Design Professional's Point of View 8:05 PM
Narendra K. Gosain, Senior Vice President, Walter P. Moore & Associates, Houston, TX

Specifications and Responsibilities for Crack Repair: From an Owner's Point of View 8:35 PM
Anthony L. Quaglia, Senior General Superintendent, Gilbane Building Co., Providence, RI

Questions and Answers 9:05 PM
Sunday, September 28

6:30 AM - 8:15 AM

Workshop for Technical Committee Chairs

Sponsored by the Technical Activities Committee (TAC)

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

Technical committee chairs are invited to join TAC members and ACI staff for the new convention tradition, a “real” breakfast and an opportunity to meet with your fellow Chairs and TAC members. Seating is arranged so that Chairs sit at the same table as their TAC contact. There is time for table discussions, a general question-and-answer session, and a short presentation on recent developments of interest to ACI Chairs. In Boston, ACI staff will introduce website balloting for committee use, and a short tutorial is expected. Don’t miss this one.

All technical committees 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.
Preaching, Teaching, and Reaching

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

You can't give your audience what they want without first knowing who they are. This session looks at the different audiences at ACI sessions and what each one of them is looking for. By knowing what their audiences are looking for, speakers who attend this session can walk away with five specific items that will improve their presentation.
Sunday, September 28

9:00 AM - 12:00 PM

Research in Progress Back Bay D

Sponsored by Committee 123

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

Session Co-Moderator: Michelle R. Nokken
Doctoral Candidate
Department of Civil Engineering
University of Toronto
Toronto, ON, Canada

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

Determining the Influence of Curing Conditions on Water Loss from Pastes and Mortars with X-Ray Absorption
Gary S. Wojcik, NIST/NRC Post-Doctoral Research Associate, National Institute of Standards and Technology, Gaithersburg, MD; Kiri L. Feldman, National Institute of Standards and Technology

Set Time Retardation of Concrete Caused by Fly Ash

Optimization of Aggregates in Concrete Mixes Pedro N. Quiroga, Graduate Student, Department of Civil Engineering, University of Texas at Austin, Austin, TX; David W. Fowler, University of Texas at Austin

Study of the Correction Factor for Impact-Echo Tests on Concrete Slabs
John S. Popovics, Assistant Professor, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL; Nicole D. Jackson, University of Illinois at Urbana-Champaign
9:00 AM - 12:00 PM

Research in Progress  

**Effect of Curing and Damage on Surface Wave Velocity and Through Wave Velocity in Large-Scale Concrete**  
*Christopher C. Ferraro*, Department of Civil and Coastal Engineering, University of Florida, Gainesville, FL; *Andrew J. Boyd*, University of Florida

**Behavior of Masonry Strengthened with Inorganic High-Strength Polymer Composites**  
*Mohamed H. Nazier*, Graduate Assistant, Department of Civil Engineering, Rutgers University, Piscataway, NJ; *Perumalsamy N. Balaguru*, Rutgers University

**Restrainted FRP-Reinforced Concrete Bridge**  
**Deck Slabs under Concentrated Loads**  
*Sherif E. El-Gamal*, Graduate Student, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, QC, Canada; *Ehab F. El-Salakawy* and *Brahim Benmokrane*, University of Sherbrooke

**Investigation of CFRP Reinforced Concrete Beam Failure**  
*David G. Taggart*, Professor, Department of Mechanical Engineering and Applied Mechanics, University of Rhode Island, Kingston, RI; *George Tsiatas*, Arun U. Nair, *Andrew F. Wilson*, and *Thomas J. Kim*, University of Rhode Island; *Hiroshi Yoshiida* and *Mitsuru Yokoo*, Chemical Grouting Company, Ltd; *Kensuke Yagi*, Mitsubishi Chemical Functional Products, Inc.; and *Kiyoshi Hori*, Shirayuri Women’s College

**Shake Table Testing of Post-Tensioned Concrete Masonry Walls**  
*Gavin D. Wight*, Graduate Student, Department of Civil, Construction and Environmental Engineering, North Carolina State University, Raleigh, NC; *Mervyn J. Kowalsky*, North Carolina State University; and *Jason M. Ingham*, University of Auckland
Research in Progress: continued

Behavior of Reinforced Concrete Box Girders under Combined Seismic Torsion and Shear 11:15 AM
Gary Greene, Jr., Graduate Student, GAANN Fellow, Department of Civil, Architectural, and Environmental Engineering, University of Missouri-Rolla, Rolla, MO; and Abdeldjelil Belarbi, University of Missouri-Rolla

Collapse Control of Irregular Reinforced Concrete Buildings for Earthquake Excitation Using Story-Safety Factor 11:30 AM
Thuat V. Dinh, Graduate Student, Department of Architecture and Civil Engineering, Nagoya Institute of Technology, Nagoya, Japan; and Toshikatsu Ichinose, Nagoya Institute of Technology

Structural Behavior of Walls Constructed with Insulated Concrete T-Blocks 11:45 AM
Bijan H. Ahmadi, Director, Continuing Engineering Education, University of Bahrain, Bahrain
9:00 AM - 12:00 PM

★ FRP Composites for External Reinforcement, Part I

Back Bay C

Sponsored by Committee 440

Session Moderator: Stephanie L. Walkup
Wiss Janney Elstner Associates, Inc.
Princeton Junction, NJ

Session Co-Moderator: Milan Vatovec
Simpson Gumpertz & Heger, Inc.
Waltham, MA

Introduction

Antonio Nanni, V&M Jones Professor of Civil Engineering,
Department of Civil Engineering, University of Missouri-Rolla,
Rolla, MO

Real Life Application of FRP in Egypt

Ibrahim Mahfouz, Associate Dean, College of Engineering,
Zagazega University, Cairo, Egypt; and T. Rizk, Lawrence Technology University

FRP Retrofit of the Ring-Beam of a Nuclear Reactor Containment Structure

Kenneth Neale, Canada Research Chair in Advanced Engineered Material Systems, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, QC, Canada; Marc Demers, University of Sherbrooke; A. Popovic, Atomic Energy of Canada Ltd; Sami H. Rizkalla, North Carolina State University; and Gamal Tadros, ISIS Canada

Increasing the Flexural Capacity of an Existing Reinforced Concrete Bridge in Texas Using CFRP Composites

Sergio F. Brenña, Assistant Professor, College of Engineering, University of Massachusetts-Amherst, Amherst, MA; and Mark A. Steves, Texas Department of Transportation

★ Denotes theme session
9:00 AM - 12:00 PM

★ FRP Composites for External Reinforcement, Part I

Reinforcing of a Cathedral Tower with CFRP Laminates

Gustavo Tumialan, Structural Engineer, Simpson Gumpertz & Heger, Inc., Boston, MA; D. Torrealva and E. Pasquel, Catholic University of Peru; and Antonio Nanni, University of Missouri-Rolla.

Strengthening of a Bridge Using Two FRP Technologies

Paolo Casadei, Post-Doctoral Candidate, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO; N. Galati, University of Lecce; R. Parretti, Co-Force America; and Antonio Nanni, University of Missouri-Rolla.

Field Applications of Concrete-Filled FRP Tubes for Marine Piles

Amir Z. Fam, Assistant Professor, Department of Civil Engineering, Queen's University, Kingston, ON, Canada; Robert H. Greene, Lancaster Composite; and Sami H. Rizkalla, North Carolina State University.

Use of Externally Bonded FRP for Rehabilitation of Bridges in Western Canada

Gamal Tadros, Technical Applications Consultant, ISIS Canada, Winnipeg, MB, Canada; Robin L. Hutchinson, University of Manitoba; J. Kroman, City of Calgary; and Sami H. Rizkalla, North Carolina State University.

★ Denotes theme session
Sunday, September 28

9:00 AM - 12:00 PM

**Pervious Concrete**

**Back Bay B**

Sponsored by Committee 522

Session Moderator: Nader Ghafoori
Professor and Chair
Department of Civil and
Environmental Engineering
University of Nevada-Las Vegas
Las Vegas, NV

Session Co-Moderator: David J. Akers
Pavement Engineer
California Cement Promotion Council
San Diego, CA

**Introduction**

*Nader Ghafoori*, Professor and Chair, Department of Civil and
Environmental Engineering, University of Nevada-Las Vegas,
Las Vegas, NV

9:00 AM

**Pervious Concrete Applications and Market Drivers**

*Dan R. Brown*, Director of Technical Services, Georgia
Concrete and Products Association, Tucker, GA

9:05 AM

**Properties of Pervious Concrete**

*Nader Ghafoori*, Professor and Chair, Department of Civil and
Environmental Engineering, University of Nevada-Las Vegas,
Las Vegas, NV

9:30 AM

**Construction Methods for Pervious Concrete Applications**

*Matthew A. Offenberg*, Pavements Engineer, Rinker Materials,
Inc., Casselberry, FL

10:00 AM
9:00 AM - 12:00 PM

Pervious Concrete

Pervious Concrete Pavement  10:30 AM
Contractor Certification
Bob J. Banka, President, Concrete Solutions, Inc.,
Eugene, OR

Design Uses of Pervious Concrete for
Stormwater Infiltration  11:00 AM
Dale Fisher, President, PCI Systems, Inc., Canton, GA

Pervious Concrete Pavements in Poorly
Draining Soils  11:30 AM
Michael L. Lemming, Professor, Department of Civil Engineering,
North Carolina State University, Raleigh, NC
9:00 AM - 12:00 PM

Seismic Versus Blast Back Bay A
Comparison and Contrast of a Multi-Hazard Design

Sponsored by Committee 370

Session Moderator: Robert G. Pekelhiss 
Degenkolb Engineers 
San Francisco, CA

Introduction to Seismic Versus Blast Design 9:00 AM
Eric B. Williamson, Assistant Professor, University of Texas at Austin, Austin, TX

Comparison of Blast and Seismic Design of Petrochemical Industry Structures 
Madhav Nene, Fluor Daniel, Inc., Aliso Viejo, CA

Summary of Study on the Blast Resistance Gained from Seismic Retrofit Techniques 
Jack R. Hayes, Structural Engineer, CERL/US Army Engineer Research and Development Center, Champaign, IL

Influence of Seismic Detailing in Blast Response of Reinforced Concrete Structures in Bogota, Colombia 
Luis E. Garcia, Visiting Professor, Department of Civil Engineering, Purdue University, West Lafayette, IN

Quantitative Evaluation of Seismic Detailing for Blast Resistance in New Concrete Building Design 
Robert G. Pekelhiss, Degenkolb Engineers, San Francisco, CA

Damage Patterns and Stability of Buildings Subjected to Earthquake and Blast Loading 
Matti Adan, Managing Engineer, Exponent-Failure Analysis Associates, Menlo Park, CA
New Developments and Techniques in Bond and Development of Reinforcement

Sponsored by Committee 408

Session Moderator: Adolfo B. Matamoros
Assistant Professor
University of Kansas
Lawrence, KS

Session Co-Moderator: JoAnn P. Browning
Assistant Professor
University of Kansas
Lawrence, KS

Introduction 9:00 AM
Adolfo B. Matamoros, Assistant Professor, University of Kansas, Lawrence, KS

Pull-Out Tests of Prestressing Strands in UHPC 9:05 AM
Eric Steinberg, Associate Professor/Assistant Chair, Department of Civil Engineering, Ohio University, Athens, OH; and Anna Lubbers, Ohio University

Bond Behavior of Lap Spliced Fiber-Reinforced Polymer (FRP) Bars 9:35 AM
A. Cihan Pay, Graduate Research Assistant, Purdue University, West Lafayette, IN; and Robert J. Frosch, Purdue University

Bond and Development of Reinforcing Bars in High-Strength Fiber-Reinforced Concrete 10:05 AM
Peter H. Bischoff, Associate Professor, Department of Civil Engineering, University of New Brunswick, Fredericton, NB, Canada; and Fred Berube, University of New Brunswick
New Developments and Techniques in Bond and Development of Reinforcement

Connections with Post-Installed Rebars in Concrete
*Rolf Eltsg enthusiastic, Professor, Institute for Construction Materials, Universitat Stuttgart, Stuttgart, Germany; and *Isabelle Simons, Universitat Stuttgart

Bond-Slip Response of Reinforcing Bars Grouted in Ducts
*John F. Stanton, Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, WA; and *Dawn E. Lehman and *Dan J. Raynor, University of Washington

Bond Provisions in ACI 318 versus Test Results—Recommended Changes in the Code
*David Darwin, Ackers Distinguished Professor, Department of Civil, Architectural, and Environmental Engineering, University of Kansas, Lawrence, KS
Sunday, September 28

11:30 AM - 1:00 PM

Session Moderator: Independence W
Orientation Workshop

Sponsored by Committee E903

Session Moderator: David G. Kittridge
Consultant
Maitland, FL

Session Co-Moderators: 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

Ensuring that all ACI session moderators understand the duties and responsibilities of moderating a session is one of the goals of this workshop, 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. All moderators of technical and educational sessions are required by TAC and EAC to attend one of these orientation workshops before their scheduled session.
12:00 PM - 2:00 PM

✓ Student Luncheon Buffet  Commonwealth
$25US per person
(FREE for students)

Sponsored by the ACI New England Chapter, Master Builders, and Grace Construction Products’ Research and Development Laboratories

Speaker: Larry R. Roberts
Director
Technology, Planning and Transfer
Grace Construction
Cambridge, MA

Speaker: Joseph A. Daczko
Group Manager of
Concrete Technology
Department of Research and Development
Master Builders, Inc.
Cleveland, OH

Topic: Self-Consolidating Concrete

Self-consolidating concrete (SCC) is gaining widespread acceptance in North America. Its performance characteristics include high fluidity and stability resulting in ease of placement and consolidation. The performance of SCC is dictated by the project requirements.

Awards for 1st, 2nd, and 3rd place in the Student Concrete Cube Competition will be announced during the luncheon.

Menu: All American Deli Buffet, dessert, tea and coffee

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

✓ Separate Fee Required
Sunday, September 28

2:00 PM - 5:00 PM

Limits on Concrete and the Environment During Curing

Sponsored by Committee 308

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

Session Co-Moderator: Steve Gebler
Senior Principal Engineer
Construction Technology Labs
Skokie, IL

Introduction 2:00 PM
Michael Thomas, Professor, Department of Civil Engineering, University of New Brunswick, Fredericton, NB, Canada

Effect of Elevated-Temperature Curing on Microstructure and Transport Properties of Concrete 2:05 PM
Rachel J. Detwiler, Principal Engineer, Construction Technologies Laboratories, Skokie, IL

Some Mysteries Surrounding DEF 2:35 PM
Jan Skalny, Consultant, Holmes Beach, FL; and Gene Hill, Openaka Corp., Inc.

Mitigating Expansion in Heat-Cured Concrete 3:05 PM
Terry Ramlochan, Post-Doctoral Candidate, Department of Civil Engineering, University of Toronto, Toronto, ON, Canada; R. Doug Hooton, University of Toronto; and Michael Thomas, University of New Brunswick

Effect of Heat Curing on the Properties of Concrete 3:35 PM
Kenneth C. Hover, Professor and Weiss Presidential Fellow, Department of Civil and Environmental Engineering, Cornell University, Ithaca, NY
Sunday, September 28

2:00 PM - 5:00 PM

Limits on Concrete and the Environment During Curing

Temperature Limits to Avoid DEF 4:05 PM
Karen Scrivener, Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland

DEF: Disparities Between the Lab and Field 4:35 PM
Michael Thomas, Professor, Department of Civil Engineering, University of New Brunswick, Fredericton, NB, Canada
Sunday, September 28

2:00 PM - 5:00 PM

Applications of Fiber-Reinforced Concrete in Highway Bridges

Sponsored by Committees 343 and 544

Session Moderator: Nur Yazdani
Professor
Department of Civil and Environmental Engineering
Florida State University
Tallahassee, FL

Session Co-Moderator: Nemkumar P. Banthia
Professor
Department of Civil Engineering
University of British Columbia
Vancouver, BC, Canada

Introduction
Nur Yazdani, Professor, Department of Civil and Environmental Engineering, Florida State University, Tallahassee, FL

Application of Structural Synthetic Fibers for Highway Bridge Rehabilitation
Michael Mahoney, Fiber Technology Manager, The Euclid Chemical Company, Cleveland, OH; Jean F. Trottier, Dalhousie University; and Nicholas Adams, The Euclid Chemical Company

Cyclic Response of Bridge Piers with Ductile Fiber-Reinforced Concrete Hinge Regions
Sarah L. Billington, Assistant Professor, Department of Civil and Environmental Engineering, Stanford University, Stanford, CA; and J. Matthew Rouse, Cornell University

Fiber-Reinforced Concrete Wearing Surface for Orthotropic Deck Bridge
Ward N. Marianos, Jr., Senior Associate, Modjeski and Masters, Inc., St. Louis, MO; David W. Petermeier, Modjeski and Masters, Inc.; and George F. Ryan, Illinois Department of Transportation
2:00 PM - 5:00 PM

Applications of Fiber-Reinforced Concrete in Highway Bridges 

Reduction of Anchorage Zone Steel in Post-Tensioned Girders with Fiber Applications
Nur Yazdani, Professor, Department of Civil and Environmental Engineering, Florida State University, Tallahassee, FL; and Saif A. Haroon and Lisa Spainhour, Florida State University

Design Concept for Jointless Bridge Decks Using Engineered Cementitious Composites
Gregor Fischer, Assistant Professor, Department of Civil and Environmental Engineering, University of Hawaii, Honolulu, HI; and Yun Kim and Victor C. Li, University of Michigan

FRP Reinforced Steel Free Modular Deck System
Vistasp M. Karbhari, Professor, Department of Structural Engineering, University of California, San Diego, La Jolla, CA; and Lijuan (Dawn) Cheng and Frieder Seible, University of California, San Diego
Sunday, September 28

2:00 PM - 5:00 PM

★ FRP Composites for External Reinforcement, Part II

Back Bay C

Sponsored by Committee 440

Session Moderator: Carol K. Shield
Associate Professor
Department of Civil Engineering
University of Minnesota
Minneapolis, MN

Session Co-Moderator: Garth Fallis
Vice President
Vector Construction Group
Winnipeg, MB, Canada

Introduction  2:00 PM
John P. Busel, Executive Director, Market Development
Alliance of the FRP Composite Industry, Harrison, NY

Flexural Strengthening of Impacted PC Girder with FRP Composites  2:05 PM
Renato Parretti, Senior Structural Engineer, Co-Force America, Inc., Rolla, MO; Antonio Nanni, University of Missouri–Rolla; J. Cox, Master Contractors; Chip Jones, Emery Sapp & Sons, Inc.; and Randy L. Mayo, Missouri Department of Transportation

Carbon FRP Strengthening of PCCP Aqueducts  2:30 PM
Tarek Alkhrdaji, Design Engineer, Strengthening Division, Structural Preservation Systems Inc., Baltimore, MD; and Jay Thomas, Structural Preservations Systems, Inc.

Use of Composites in the Rehabilitation of Civil Engineering Structures  2:55 PM
Ronald J. Watson, President, R.J. Watson, Inc., Amherst, NY

★ Denotes theme session
Sunday, September 28

2:00 PM - 5:00 PM

★ FRP Composites for External Reinforcement, Part II  
Continued

Innovative Strengthening of the Reptile Building at the Zoo of Antwerp  
Stijn Matthys, Post-Doctoral Researcher, Magnel Laboratory for Concrete Research, Department of Structural Engineering, Ghent University, Ghent, Belgium; L. Taerwe, Ghent University; J. Janssens, ETEC NV; and D. DeNeef, ECC/ETEC/TRADECC NV

Field Retrofit of Prestressed Concrete T-Beam Using CFRP  
Ian N. Robertson, Associate Professor, Department of Civil and Environmental Engineering, University of Hawaii, Honolulu, HI; and A. A. Agapay and L. M. Nakashima, University of Hawaii

Bridge Strengthening with Advanced Composite Systems  
Miklos Basler, Sika Corporate Construction, Sika Services AG; David White, Sika Corporation; and Mario Destroches, Sika Canada, Inc.

Flexural Strengthening of Masonry Walls in High School Using FRP Bars  
Gustavo Tumialan, Structural Engineer, Simpson Gumpertz & Heger, Inc., Boston, MA; N. Galati, University of Lecce; Antonio Nanni, University of Missouri-Rolla; and D. Tyler, Western Waterproofing Co., Inc.

★ Denotes theme session

87
2:00 PM - 5:00 PM

Emerging Technologies in Civil Infrastructure Applications

Sponsored by the Technology Transfer Committee

Session Moderator: Emmanuel K. Attiogbe
Director
Technical Services
Master Builders, Inc.
Cleveland, OH

Session Co-Moderator: James T. Dikeou
Consulting Engineer
Englewood, CO

Introduction 2:00 PM
Emmanuel K. Attiogbe, Director, Technical Services, Master Builders, Inc., Cleveland, OH

Use of Lithium Compounds in Combination with Pozzolans or Slag for Controlling Expansion Due to Alkali-Silica Reaction 2:05 PM
Michael Thomas, Professor, Department of Civil Engineering, University of New Brunswick, Fredericton, NB, Canada

Self-Actuating Fiber Composites for Auto-Adaptive Structures 2:35 PM
Neven Krstulovic-Opara, Managing Engineer, Civil Engineering, HPCS Consulting, Irvine, CA

Cyclic Response of Precracked Prestressed T-Girders at Different Levels of CFRP Strengthening 3:05 PM
Hayder A. Rasheed, Assistant Professor, Department of Civil Engineering, Kansas State University, Manhattan, KS; and Kyle H. Larson and Robert Peterman, Kansas State University
2:00 PM - 5:00 PM

Emerging Technologies in Civil Infrastructure Applications

In-Situ Conductivity Method for Monitoring Bleeding and Segregation in Cement-Based Materials
Kamal H. Khayat, Professor, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, QC, Canada; and C. Jolicoeur and T. V. Pavate, University of Sherbrooke

Use of Shrinkage-Compensating Concrete in the Field of Repairs
Benoit Bissonnette, Associate Professor, Department of Civil Engineering, Laval University, Quebec City, QC, Canada; Felipe J. Perez, Lehigh University; and R. Gagne, University of Sherbrooke, F. Lauture, and R. Morin, Public Works and Environment Service, Montreal

Cracking Potential of Concrete Under Restrained Shrinkage
Emmanuel K. Attiogbe, Director, Technical Services, Master Builders, Inc., Cleveland, OH; and Heather T. See and Matthew A. Miltenberger, Master Builders, Inc.
Sunday, September 28

2:00 PM - 5:00 PM

Foundations for Vibrating Machinery

Republic A

Sponsored by Committee 351

Session Moderator: William L. Bounds
Director, Structural Engineering
Fluor Daniel, Inc.
Sugar Land, TX

Session Co-Moderator: Andrew Rossi, Jr.
President/CEO
Five Star Products, Inc.
Fairfield, CT

Introduction 2:00 PM
William L. Bounds, Director, Structural Engineering, Fluor Daniel, Inc., Sugar Land, TX

ACI 351’s Report on Foundations for Dynamic Machinery—Design Criteria 2:01 PM
James P. Lee, Senior Technical Advisor, Halliburton KBR, Houston, TX

ACI 351’s Report on Foundations for Dynamic Machinery—Design Methods 2:25 PM
Tod Sutton, Engineer, Department of Civil Engineering, University of Kansas, Lawrence, KS

Case History: Design of Two Machine Foundations 2:50 PM
William L. Bounds, Director, Structural Engineering, Fluor Daniel, Inc., Sugar Land, TX

Case History of Repairing Cracked Foundation for Large Reciprocating Gas Compressor 3:15 PM
Robert L. Rowan, Jr., CEO, Robert L. Rowan & Associates, Houston, TX
2:00 PM - 5:00 PM

Foundations for Vibrating Machinery

Machine Foundation Repair and Grouting
Andrew Rossi, Jr., President/CEO, Five Star Products, Inc., Fairfield, CT
3:40 PM

Foundation and Isolation Design for a Road Simulator
Scott D. Campbell, Project Engineer, Kinetics Noise Control, Dublin, OH
4:05 PM

Foundation Design for a 6 MW High-Speed Reciprocating Compressor
J. Pete Harrell, Principal Engineer, Southwest Research Institute, San Antonio, TX; P. Joe Pantermuehl, Ralph E. Harris, and Anthony J. Smalley, Southwest Research Institute; Robert L. Rowan, Robert L. Rowan & Associates; Hugh A. Shaffer, Compressor Systems, Inc.; and Leo W. Hoover, National Fuel Gas Supply Corporation
4:30 PM
Sunday, September 28

5:00 PM - 6:00 PM

Women in ACI Reception  Republic Foyer

Sponsored by ACI International

Join other women in ACI for an informal reception. 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.**
Sunday, September 28

7:30 PM - 10:00 PM

123 Forum: Structural Health Monitoring—Do Costs Justify Benefits?

Sponsored by Committee 123

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

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

Connecticut DOT's Experience with Structural Health Monitoring 7:35 PM
Robert G. Lauzon, Supervising Engineer, Office of Research & Materials, Connecticut Department of Transportation, Rocky Hill, CT

Structural Health Monitoring—Is There a Need for More Research & Development 7:45 PM
Ken Maser, President, Infrasense, Inc., Arlington, MA

Structural Health Monitoring Becoming More Practical from Advances in NDE Technology 7:55 PM
Mark Moore, Senior Consultant and Unit Manager, Wiss Janney Elstner Associates, Norcross, GA

Economic Benefits Through Structural Health Monitoring 8:05 PM
Thomas L. Weinmann, Manager, Department of Sensors & Structural Diagnostics, Construction Technology Laboratories, Inc., Skokie, IL

Is Your Bridge Talking to You? 8:15 PM
June B. White, Business Development Engineer, Physical Acoustics Corporation, Princeton, NJ

Questions, Answers, and Discussion 8:25 PM
7:30 AM - 8:30 AM

Chapter Forum: How to Host a Convention

Sponsored by the Chapter Activities Committee

Session Moderator: LaGrit (Sam) F. Morris
Director of Administration
Georgia Concrete and Products Association
Tucker, GA

Session Co-Moderator: Margaret A. Reed
Wiss Janney Elstner Associates
Northbrook, IL

Introduction 7:30 AM
LaGrit (Sam) F. Morris, Director of Administration, Georgia Concrete and Products Association, Tucker, GA

Ever wonder if your chapter could host an ACI Convention? If the answer is yes, this is the session to attend. Find out how to request to host a convention, the chapter's responsibilities and what benefits the chapter will receive for hosting a convention. Chapter officers and members are encouraged to attend.
9:00 AM - 12:00 PM

Contractor's Day: Back Bay D
Anatomy of a Slab Problem—Diagnosis to Repair

Sponsored by CLC and the ACI New England Chapter

Session Moderator: Christopher J. Zarba
Marketing Representative
Blakeslee Prestress, Inc.
Bradford, CT

Session Co-Moderator: Peter A. Craig
Consultant
Concrete Constructives
Greene, ME

Introduction 9:00 AM
Christopher J. Zarba, Marketing Representative, Blakeslee Prestress, Inc., Bradford, CT

Diagnosis to Repair 9:05 AM
Paul L. Kelley, Principal, Simpson Gumpertz & Heger, Inc.
Arlington, MA

Diagnosis to Repair 10:35 AM
Peter A. Craig, Consultant, Concrete Constructives,
Greene, ME
Monday, September 29

9:00 AM - 12:00 PM

Responsibility in Concrete Construction

Sponsored by the RCC Committee

Session Moderator: Norman L. Scott
Consulting Engineer
Consulting Engineers Group
Mt. Prospect, IL

Introduction
Norman L. Scott, Consulting Engineer, Consulting Engineers Group, Mt. Prospect, IL

Judges and Building Codes
Kenneth B. Bondy, Consulting Structural Engineer, West Hills, CA

Responsibility in the Construction Industry
James Letter, Adjunct Professor, Department of Civil and Environmental Engineering, Virginia Tech, Crofton, MD

Investigative Methodology on Concrete Foundations in Sulfate Soils
Geoffrey Hichborn, Sr., President, Hichborn Consulting Group, Orange, CA

Nobody Wins at the Courthouse
Jon Mullarky, Consultant, Chester, MD

Practices and Duties of Forensic Investigators: How Quality Assurance is Maintained through the Legal System
Boyd A. Clark, Senior Materials Scientist, RJ Lee Group, Inc., Monroeville, PA

Questions and Answers

11:35 AM
Roller-Compacted Concrete Pavements

Sponsored by Committee 325

Session Moderator: David W. Pittman
Acting Director
Geotechnical and Structures Laboratory
U.S. Army Engineer Research and Development Center
Vicksburg, MS

Session Co-Moderator: Norbert J. Delatte, Jr.
Associate Professor
Department of Civil and Environmental Engineering
University of Alabama
at Birmingham
Birmingham, AL

Introduction 9:00 AM
David W. Pittman, Acting Director, Geotechnical and Structures Laboratory, U.S. Army Engineer Research and Development Center, Vicksburg, MS

Freeze/Thaw Durability and Performance of RCC in Quebec 9:05 AM
Martin Gendreau, Technical Director, SEM, Inc., QC, Canada

RCC Durability—Corps of Engineers Experience 9:35 AM
David W. Pittman, Acting Director, Geotechnical and Structures Laboratory, U.S. Army Engineer Research and Development Center, Vicksburg, MS

High Fly Ash RCC Pavements 10:05 AM
Philip T. Seabrook, FACI

Tennessee Experience 10:35 AM
Frank Lennox, Manager of Technical/Marketing Services, Signal Mountain Cement Co., Division of RC Cement, Chattanooga, TN
Monday, September 29

9:00 AM - 12:00 PM

Roller-Compacted Concrete Pavements continued

RCC: The Contractor's Perspective
Ronald L. Peltz, Manager, A.G. Peltz Group, LLC, Birmingham, AL

Use of Gyratory Compactor for Making RCC Specimens
Norbert J. Delatte, Jr., Associate Professor, Department of Civil and Environmental Engineering, University of Alabama at Birmingham, Birmingham, AL
Monday, September 29

9:00 AM - 12:00 PM

Interactions Between
Admixtures and
Cementitious Materials

Sponsored by Committee 236

Session Moderator: Karthik H. Obla
Technical Manager
Boral Materials Technology, Inc.
San Antonio, TX

Session Co-Moderator: Aulis Kappi
R&D Manager
Consolis Technology Oy
Parainen, Finland

Introduction
9:00 AM
Aulis Kappi, R&D Manager, Consolis Technology Oy, Parainen, Finland

Incompatibility and Setting Problems
9:05 AM
Rachel J. Detwiler, Principal Engineer, Construction Technology Laboratories, Skokie, IL

Polycarboxylate Polymers and Blends in Different Cements
9:35 AM
Franz J. Wombacher, Head of Admixture Research and Development, Sika Technology AG, Zürich, Switzerland; and Urs Maeder and I. Schober, Sika Technology AG

Effects of Cement Variations on Concrete Workability
10:05 AM
Aulis Kappi, R&D Manager, Consolis Technology Oy, Parainen, Finland; Erik Nordenswan and Klaus Juvas, Consolis Technology Oy; and Kai Salo, Oy Sika Finland AB

Use of Admixtures to Develop High-Performance Concrete in the Central Artery/Tunnel Project
10:35 AM
Prabir K. Das, Vice President, Parsons Brinkerhoff, New York, NY
Interactions Between Admixtures and Cementitious Materials

Hydration Behavior of Cements with Different Gypsum Levels in the Presence of Standard Chemical Admixtures

Stephen A. Farrington, Senior Scientist, Degussa Construction Chemicals Americas/Master Builders, Inc., Cleveland, OH

Recent Advances on Interactions Between Cementitious Systems and Chemical Admixtures

Arezki Tagnit-Hamou, Professor of Civil Engineering, Department of Civil Engineering, University of Sherbrooke

9:00 AM - 12:00 PM
Monday, September 29

12:00 PM - 2:00 PM

✓ Contractor's Day Lunch Commonwealth
$28US per person

Hosted by CLC and the ACI New England Chapter

Speaker: Steve M. Chamney
Managing Partner
New York Office
Peckar & Abramson
New York, NY

Topic: Managing the Risks of Mold

Menu: Custom croissant plate,
dessert, tea and coffee

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

✓ Separate Fee Required
Monday, September 29

2:00 PM - 5:00 PM

Contractor's Day: Back Bay D
Innovative Precast Framing
Systems from Theory to Practice

Sponsored by CLC and the ACI New England Chapter

Session Moderator: Christopher J. Zarba
Marketing Representative
Blakeslee Prestress, Inc.
Bradford, CT

Session Co-Moderator: Peter A. Craig
Consultant
Concrete Constructives
Greene, ME

Introduction 2:00 PM
Christopher J. Zarba, Marketing Representative, Blakeslee
Prestress, Inc., Bradford, CT

Precast Construction Using 2:05 PM
Emulative Connections
Alvin C. Ericson, Technical Consultant, Bonita Springs, FL

Ground Breaking—Precast Concrete 3:35 PM
Framing Systems for Seismic Design
Joseph C. Sanders, Senior Vice President, Director of
Engineering, Charles Pankow Builders, Ltd., Altadena, CA
Monday, September 29

2:00 PM - 5:00 PM

Open Paper Session Independence E

Sponsored by Committee 123

Session Moderator: JoAnn P. Browning
Assistant Professor
University of Kansas
Lawrence, KS

Session Co-Moderator: John S. Popovics
Assistant Professor
Department of Civil Engineering
University of Illinois
Urbana, IL

Introduction 2:00 PM
JoAnn P. Browning, Assistant Professor, University of Kansas, Lawrence, KS

Corrosion Testing of Mineral and Chemical Admixture Combinations 2:01 PM
Scott A. Civjan, Assistant Professor, Department of Civil and Environmental Engineering, University of Massachusetts, Amherst, MA; and James M. LaFave, University of Illinois; and Joanna Trybulski and Daniel Lovett, University of Massachusetts; and Jose Lima, Rhode Island Department of Transportation; and Donald W. Pfeifer, Wiss Janney Elstner Associates, Inc.

Shake Table Tests on High Seismic Performance Shear Walls 2:25 PM
Y. L. Mo, Professor, Department of Civil and Environmental Engineering, University of Houston, Houston, TX; and Jianxia Zhong, University of Houston; and Wen-I Liao and Chin-Hsiung Loh, National Center for Research on Earthquake Engineering
Monday, September 29

2:00 PM - 5:00 PM

Open Paper Session  continued

Shear Behavior of High-Strength Concrete  2:50 PM
Bridge Girders
Thomas Nagle, Research Assistant, University of Illinois at Urbana-Champaign, Urbana, IL; and Daniel A. Kuchma and Neil M. Hawkins, University of Illinois at Urbana-Champaign

Punching Shear Design Approaches for  3:15 PM
Concrete Two-Way Slabs Reinforced with FRP Bars
Carlos E. Ospina, Design Engineer, BERGER/ABAM Engineers, Inc., Federal Way, WA; and Scott D. B. Alexander and J. J. Roger Cheng, University of Alberta

Enhanced Porosity Concrete: Permeability,  3:40 PM
Electrical Conductivity, and Acoustical Performance
Narayanan Neithalath, Research Assistant, School of Civil Engineering, Purdue University, West Lafayette, IN; and W. Jason Weiss and Jan Olek, Purdue University

Concrete Mix Design to Reduce Cracking  4:05 PM
in Bridge Decks
Heather A. K. McLeod, Research Assistant, University of Kansas, Lawrence, KS; and David Darwin and JoAnn P. Browning, University of Kansas

Fracture Analysis of the Debonding between  4:30 PM
FRP and Concrete
Mohamad Ali-Ahmad, Post-Doctoral Candidate, Department of Civil Engineering, City College of New York, New York, NY; and Kolluru V. Subramaniam and Michel Ghosn, City College of New York
2:00 PM - 5:00 PM

Polymer Concrete Structural Design, Overlay Applications, and Quality Control

Republic B

Sponsored by Committee 548

Session Moderator: Milton D. Anderson
DJA Consultants Inc.
Casper, WY

Session Co-Moderator: Tom T. Wickett
National Sales Manager
Reactive Resins Division
Degussa Corporation
Piscataway, NJ

Introduction 2:00 PM
Milton D. Anderson, DJA Consultants Inc., Casper, WY

Comparison of Methacrylate Reactive Resin to HMWM and Epoxy Crack Sealers 2:05 PM
Tom T. Wickett, National Sales Manager, Reactive Resins Division, Degussa Corporation, Piscataway, NJ

Design and Behavior of Thermal Stresses in Polymer Concrete Overlays 2:40 PM
David W. Fowler, Professor, Department of Civil Engineering, University of Texas at Austin, Austin, TX

Use of Polymer Concrete in Precast Modular Level Railroad Grade Crossings 3:15 PM
Mike S. Stenko, President, Transpo Industries, New Rochelle, NY

Epoxy Polymer Concrete Overlays 3:50 PM
Brad Nemunaitis, Director, Technical Services, Tamms Industries, Kirkland, IL

Historic Anatomy of a Polymer Concrete Building Panel 4:25 PM
Wafeek S. Wahby, Professor, School of Technology, Eastern Illinois University, Charleston, IL
2:00 PM - 5:00 PM

Shrinkage and Creep of Republic A Concretes Containing Shrinkage-Reducing Admixtures (SRAs)

Sponsored by Committee 209

Session Moderator: Akthem A. Al-Manaseer
Professor and Chair
Department of Civil and Environmental Engineering
San Jose State University
San Jose, CA

Session Co-Moderator: David A. Lange
Associate Professor
Department of Civil Engineering
University of Illinois
Urbana, IL

Introduction

Akthem A. Al-Manaseer, Professor and Chair, Department of Civil and Environmental Engineering, San Jose State University, San Jose, CA

Critical Review of Shrinkage-Reducing Admixtures for Concrete: Benefits and Noteworthy Applications
Charles K. Nmai, Chief Engineer, Master Builders, Inc., Cleveland, OH

Effectiveness of SRA on Reducing Concrete Shrinkage and Drying Time
Neal S. Berke, Principal Scientist, Grace Construction Products, W.R. Grace & Co., Cambridge, MA; and Lianfang Li, Grace Performance Chemicals

Early-Age Tensile Creep and Shrinkage of Concrete with SRA
Matt D’Ambrosia, Research Assistant, Department of Civil Engineering, University of Illinois, Urbana, IL; and David A. Lange, University of Illinois
2:00 PM - 5:00 PM

Shrinkage and Creep of continued
Concretes Containing
Shrinkage-Reducing Admixtures (SRAs)

Long-Term Drying Shrinkage of SRA Concretes
Carlos Videla, Professor, School of Engineering, Pontificia
University Catolica, Santiago, Chile

SRA, Mineral Admixtures and Concrete Shrinkage
Akther A. Al-Manaseer, Professor and Chair, Department of
Civil and Environmental Engineering, San Jose State University,
San Jose, CA; and R. Meggenti, CALTRANS

Drying Shrinkage Prediction for Concrete Containing SRA
Akther A. Al-Manaseer, Professor and Chair, Department of
Civil and Environmental Engineering, San Jose State University,
San Jose, CA; and S. Ristanovic, San Jose State University
Monday, September 29

2:00 PM - 5:00 PM

Colloidal Aspects of Cement Paste

Sponsored by Committee 236

Session Moderator: David A. Rothstein
President
DRP Consulting, Inc.
Boulder, CO

Introduction 2:00 PM
David A. Rothstein, President, DRP Consulting, Inc., Boulder, CO

Structure of C-S-H at the Nanometer Level and Its Relationship to Properties 2:05 PM
Hamlin M. Jennings, Professor of Civil Engineering and Materials Science, Department of Civil Engineering, Northwestern University, Evanston, IL

Virtual Concrete at the Nanometer Scale: 2:35 PM
Incorporating C-S-H into Cement Hydration Models
Edward J. Garboczi, Leader, Inorganic Materials Group, National Institute of Standards and Technology, Gaithersburg, MD

Mechanical Properties of Colloid 3:05 PM
C-S-H—What We Know and Do Not Know from Nanindentation
Franz-Josef Ulm, Professor, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, Cambridge, MA

Bulk Structure of C-S-H from $C_3S/Alite$ 3:35 PM
Hydration as a Function of Time
Harald Justnes, Professor, Chief Scientist, SINTEF Civil and Environmental Engineering, Cement & Concrete, Trondheim, Norway; and Knut O. Kjellsen, Norcem R&D
Monday, September 29

2:00 PM - 5:00 PM

Colloidal Aspects of **continued**
Cement Paste

Neutron and X-Ray Scattering Studies of 4:00 PM
C-S-H Gel Formation During Cement Hydration
Andrew J. Allen, Physicist, National Institute of Standards
and Technology, Gaithersburg, MD

Water Content of the C-S-H Gel and 4:35 PM
Syneresis Effects During Decalcification
of Hardened Cement Pastes
Jeffrey J. Thomas, Professor, Department of Civil Engineering,
Northwestern University, Evanston, IL; and J. J. Chen and
Hamil M. Jennings, Northwestern University
Monday, September 29

6:30 PM - 8:00 PM

Concrete Mixer—Foods from the Neighborhoods of Boston

Grand Bldm

Sponsored by the ACI New England Chapter

Exchange ideas and meet others in the industry, while experiencing the flavors of Boston, with food from the neighborhoods of Beacon Hill, Faneuil Hall Marketplace, the North End, Chinatown, Back Bay, and the Boston Symphony of Sweets. Note: Beverages for this event must be paid for with drink tickets included in registration packet or with cash and cannot be charged to your room.
Tuesday, September 30

7:00 AM - 8:30 AM

Faculty Network Breakfast  Commonwealth

Sponsored by Committee E803

Session Moderator:  Andrea J. Schokker
                    Henderson Professor
                    Department of Civil Engineering
                    Pennsylvania State University
                    University Park, PA

The Faculty Network Breakfast is an open forum to address
issues related to the dissemination of ACI information to
faculty members. Presentations and discussion will include
opportunities for faculty and student members, free literature/
resource awareness, scholarship information, and any other
topics of interest to faculty and student members of ACI.
Free educational materials will be given to all session attendees.
A continental breakfast will be available.
Tuesday, September 30

9:00 AM - 12:00 PM

Factors Involved in Independence E Strength Design of Footings

Sponsored by Committee 336

Session Moderator: Diane M. Campione
Project Manager
Alfred Benesch & Company
Chicago, IL

Session Co-Moderator: William H. Oliver, Jr.
Staff Engineer
CenterPoint Energy
Houston, TX

Introduction 9:00 PM
Diane M. Campione, Project Manager, Alfred Benesch & Company, Chicago, IL

Strengthening Relationship Between SE and GE 9:05 AM
Clyde N. Baker, Senior Principal Engineer, STA Consultants Limited, Vernon Hills, IL

Structural Engineering View of Strength Design of Footings 9:40 AM
Diane M. Campione, Project Manager, Alfred Benesch & Company, Chicago, IL

Geotech’s View of Strength Design of Footings 10:05 AM
Rodrigo Salgado, Professor, School of Civil Engineering, Purdue University, West Lafayette, IN

International Developments in Geotechnical Strength Design of Footings 10:40 AM
Robert M. Semple, Senior Associate, Mueser Rutledge Consulting Engineers, New York, NY

Foundation Design and ACI 318 11:05 AM
Edward J. Ulrich, Jr., President, Ulrich Engineers Inc., Houston, TX

Panel Discussion 11:35 AM
9:00 AM - 12:00 PM

Selection of Materials for Concrete Repair

Sponsored by Committee 546

Session Moderator: Myles A. Murray
President
Restuction Corporation
Sedalia, CO

Session Co-Moderator: Paul E. Gaudette
Project Engineer
Wiss Janney Elstner Associates
Chicago, IL

Introduction 9:00 PM
Myles A. Murray, President, Restuction Corporation,
Sedalia, CO

Where Are the Necessary Performance Criteria When Selecting Repair Materials? 9:05 AM
Peter H. Emmons, President & CEO, Structural Group,
Baltimore, MD; Alexander M. Vaysburd, Vaycon Consulting,
Inc.; and James E. McDonald, U.S. Army Corps of Engineers

Engineer/Owner Perspective on Repair 9:30 AM
Material Selection
Paul D. Carter, Technical Specialist, CH2M-HILL, Edmonton,
AB, Canada

Protecting Unbonded Prestressed Tendons 10:00 AM
Myles A. Murray, President, Restuction Corporation,
Sedalia, CO; Jack Morrow, Jamor Engineering, Ltd.

High-Performance Concrete Overlays 10:30 AM
Michael M. Sprinkel, Associate Director, Virginia Transportation
Research Council, Charlottesville, VA
Selection of Materials for Concrete Repair

Corrosion Protection Options to Provide
Durability of Concrete Repairs
David W. Whitmore, Vice President, Vector Construction Group, Winnipeg, MB, Canada

Key Customer Characteristics of Repair
Systems for Durable Repairs
Timothy R. Gillespie, Manager, Product Marketing, Sika Corporation, Lyndhurst, NJ
9:00 AM - 12:00 PM

Fracture Mechanics: Independence W
Testing and Applications

Sponsored by Committee 446

Session Moderator: Daniel C. Jansen
Assistant Professor
Department of Civil Engineering
Cal Poly State University
San Luis Obispo, CA

Session Co-Moderator: Barzin Mobasher
Associate Professor
Department of Civil Engineering
Arizona State University
Tempe, AZ

Introduction 9:00 AM
Daniel C. Jansen, Assistant Professor, Department of Civil Engineering, Cal Poly State University, San Luis Obispo, CA

Fracture Mechanical Characterization of Cementitious Composites Using the Wedge Splitting Test Method 9:05 AM
Alexander Rieder, W.R. Grace & Co., Cambridge, MA

Use of R-Curves in Characterization of Fracture Processes in Cement-Based Materials 9:35 AM
Barzin Mobasher, Associate Professor, Department of Civil Engineering, Arizona State University, Tempe, AZ

Issues Related to Fracture Testing Standards for Concrete Materials 10:05 AM
Vellore S. Gopalaratnam, Professor, Department of Civil and Environmental Engineering, University of Missouri-Columbia, Columbia, MO
Fracture Mechanics: continued

Quantifying Size of Compression Damage for Reinforced Concrete Flexural Predictions
W. Jason Weiss, Assistant Professor, Civil Engineering, Purdue University, West Lafayette, IN

Can Information from Multiple Unload Cycles Lead to a Size Independent Fracture Toughness?
James H. Hanson, Assistant Professor, Department of Civil Engineering, Rose-Hulman Institute of Technology, Terre Haute, IN

Consequences of Fracture Mechanics for Size Effect in Shear Failure of Beams
Zdenek P. Bažant, McCormick School Professor and Walter P. Murphy Professor, Department of Civil Engineering, Northwestern University, Evanston, IL; and Qiang Yu and Mohammad T. Kazemi, Northwestern University
12:00 PM - 2:00 PM

✓ International Commonwealth Luncheon Buffet $30US per person

Hosted by the International Committee

Speaker: Ronald Lee  
Project Manager  
John A. Martin & Associates  
Los Angeles, CA

Title: The Engineering Challenges of  
The Ray and Maria Stata Center

The 430,000 ft² Stata Center is a visionary academic complex at MIT, designed by Pritzker Prize-winning architect Frank O. Gehry that demands creative structural engineering solutions to meet the challenges posed by the architecture. Only nine stories above ground with three stories below, the center houses many different functional facilities, including two-tiered classrooms, a large auditorium, athletic facilities, a child care center, as well as research laboratories. As with Gehry's other buildings, such as the Nationale Nederlanden Building in the Czech Republic, and the Guggenheim Museum in Bilbao, Spain, the Stata Center has characteristics of amorphous form with deconstructive appearance (see the photograph). These characteristics provide challenging opportunities for the structural designer. The center is under construction on the MIT campus.

Menu: Italian North End style buffet, dessert, tea and coffee

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

✓ Separate Fee Required
Tuesday, September 30

2:00 PM - 5:00 PM

Updating Cold Weather Concreting Practices

Sponsored by Committee 306

Session Moderator: Charles J. Korhonen
Research Civil Engineer
U.S. Army Cold Regions
Research and Engineering Laboratory
Hanover, NH

Session Co-Moderator: Kevin A. MacDonald
Vice President
Cermstone Engineering Services
Mendota Heights, MN

Introduction
Charles J. Korhonen, Research Civil Engineer, U.S. Army
Cold Regions Research and Engineering Laboratory,
Hanover, NH

Estimating In-Situ Strength
Kim D. Basham, Senior Structural Engineer, Structural
Services, Inc., Cheyenne, WY

Accelerating Early-Age Strength
Tate Coverdale, Director, Product Technologies, Master
Builders, Inc., Beechwood, OH

Thermal Modeling
Kevin A. MacDonald, Vice President, Cermstone Engineering
Services, Mendota Heights, MN

Evaporation Concerns
Kenneth C. Hover, Professor and Weiss Presidential Fellow,
Department of Civil and Environmental Engineering, Cornell
University, Ithaca, NY

Sub-Zero Concrete
Charles J. Korhonen, Research Civil Engineer, U.S. Army
Cold Regions Research and Engineering Laboratory,
Hanover, NH
2:00 PM - 5:00 PM

Updating Cold Weather continued
Concreting Practices

Corrosion Control 4:10 PM
Robert Hoopes, Technical Services Engineer,
W.R. Grace & Co., Cambridge, MA

Residential Construction 4:35 PM
James R. Baty, Technical Director, Concrete Foundations
Association, Mount Vernon, IA
Tuesday, September 30

2:00 PM - 5:00 PM

Aerated Autoclaved Concrete—An Innovative Building Solution

Sponsored by Committee 523

Session Moderator: Ronald E. Barnett
General Manager
AERCON Florida, LLC
Haines City, FL

Session Co-Moderator: Caijun Shi
CJS Technology Inc.
Burlington, ON, Canada

Introduction 2:00 PM
Ronald E. Barnett, General Manager, AERCON Florida, LLC, Haines City, FL

Overview of the Guide for Using Autoclaved Aerated Concrete Panels (Introduction to AAC) 2:05 PM
Fouad H. Fouad, Professor, Department of Civil Engineering, University of Alabama, Birmingham, AL

Case Studies 2:35 PM
Felipe Babbitt, Engineering Manager, E-Crete, Scottsdale, AZ

Design Basics 3:05 PM
Ronald E. Barnett, General Manager, AERCON Florida, LLC, Haines City, FL

Design Examples 3:35 PM
Keith Itzler, Assistant Branch Manager, Dewberry-Goodkind Inc., New York, NY

Technical Basics, Part One: Materials 4:05 PM
Fouad H. Fouad, Professor, Department of Civil Engineering, University of Alabama, Birmingham, AL

Technical Basics, Part Two: Including Seismic Data 4:35 PM
Richard E. Klingner, Professor, Department of Civil Engineering, University of Texas, Austin, TX; and Jennifer E. Tanner, University of Wyoming
Wednesday, October 1

7:45 AM - 5:00 PM

✓ ACI Educational Seminar: Independence W
Seismic and Wind Design
Considerations for
Concrete Buildings

Sponsored by the ACI New England Chapter and
ACI International

Instructors:

David A. Fanella is Director of Engineering at S.K. Ghosh
Associates Inc., Northbrook, IL. Until recently, Dr. Fanella was
with the Portland Cement Association in Skokie, IL, where he
was responsible for the promotion of buildings and special
structures. Dr. Fanella is an active member of ACI Committees
340, Design Aids for ACI Building Codes; 374, Performance-
Based Seismic Design of Concrete Buildings; and 375,
Performance-Based Design of Concrete Buildings for Wind
Loads. He is also a member of ASCE 7 and the Structural
Engineers Association of Illinois. He has authored or
co-authored many of PCA’s structural publications, including
a series of articles on time-saving design methods for
reinforced concrete.

S. K. Ghosh heads the consulting firm of S.K. Ghosh Associates
Inc. in Northbrook, IL, and Laguna Niguel, CA, and is Adjunct
Professor of Civil Engineering at the University of Illinois at
Chicago. He is an ACI Fellow, serves as a member of ACI
Committee 318, Standard Building Code, and is a former
member of the Technical Activities Committee. Dr. Ghosh has
published extensively in the design of high-rise concrete
buildings and in earthquake-resistant design of concrete
structures. He is a member of the Board of Direction of the
Building Seismic Safety Council and is a member of the
ASCE Committee on Minimum Design Loads for Buildings
and Other Structures.

The registration fee includes seminar handouts,
continental breakfast, lunch, and coffee breaks.
This seminar is worth 7.5 PDHs or 0.75 CEUs.

✓ Separate Fee Required
ACI Educational Seminar  
Seismic and Wind Design  
Considerations for Concrete Buildings

How do the IBC 2000 requirements affect the design of reinforced concrete structures in your area?

The level of seismicity at a site has always been an important factor in the design of buildings for earthquakes. Occupancy has become a consideration in recent times. Another important factor, which is formally addressed in the 2000 IBC seismic requirements, is the type of soil that is present at the site. If these factors place your structure in a seismic design category equivalent to that of Seismic Zones 3 or 4, they trigger a large number of seismic detailing requirements in Chapter 21 of ACI 318-02. This can change the time, effort, and money needed to design and construct a structure as the seismic design category becomes more severe.

Based on the newly published book, *Seismic and Wind Design of Concrete Buildings*, instructors S. K. Ghosh and David A. Fanella will first provide an overview of earthquake-resistant and wind-resistant design, including a description of how concrete buildings respond to earthquake and wind forces. They'll thoroughly explain seismic and wind design requirements in the 2000 IBC and compare the seismic provisions with those in the model codes it replaced.

They'll also illustrate application of the seismic and wind provisions by designing and detailing typical structural members (slabs, beams, columns, and shearwalls) in the following structures, which are located in areas of low, moderate, and high seismic risk on different types of soil:

- Office building with dual and moment-resisting frame systems
- Residential building with shear wall-frame interactive and building frame systems
- School building with moment-resisting frame
- Residential building with bearing wall system
- Parking structure with building frame system
Registration and Information on Additional ACI Seminars

Stop by the convention registration area for a seminar brochure. To register or for more detailed information, call Seminar Registration at 248-848-3815, fax 248-848-3801, or email carla.parker@concrete.org. You can also visit us on the web at www.concreteseminars.com.

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 reveal, how to properly vibrate concrete, how to detect delaminations, and how to identify deterioration of concrete. Complimentary publications include: ACI 301-99, 302.1R-96, 303R-91, 308R-01, and 309.2R-98. This seminar is worth 7.5 PDHs or 0.75 CEUs.

Free publications, a $272.50 value, are included.

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CONCRETE REPAIR BASICS
One-day seminar for engineers, repair contractors, material suppliers, maintenance personnel, and public works engineers. Attendees will learn the best methods and materials for economical and effective concrete repairs. The seminar will cover causes and evaluation of problems in deteriorating concrete, repair techniques, repair materials, cracks and joints, and protection systems, overlays, and specifications for structures. Complimentary publications include: ACI 201.1R-92(97), 224.1R-93(98), 364.1R-94(99), 437R-91(97), and 546 R-96(01). This seminar is worth 7.5 PDHs or 0.75 CEUs. Free publications, a $162.50 value, are included.

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<td>Grand Rapids, MI</td>
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<td>December 10, 2003</td>
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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 finishibility, 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 360R-92(97). This seminar is worth 7.5 PDHs or 0.75 CEUs. Free publications, a $172.00 value, are included.

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<td>Los Angeles, CA</td>
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<td>Baltimore, MD</td>
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<td>December 2, 2003</td>
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<td>Albuquerque, NM</td>
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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 moisture test results, flooring adhesive failures, joint curling, excessive cracking, delaminations or blisters, birdbaths or other drainage problems; and disputes about interpretation of flatness/levelness requirements. This seminar is worth 7.5 PDHs or 0.75 CEUs. Free industry-related documents are included.

Denver, CO COF October 9, 2003
Miami, FL FLF October 21, 2003
Pittsburgh, PA PAF October 29, 2003
Phoenix, AZ AZF November 5, 2003
Milwaukee, WI WIF November 6, 2003
Los Angeles, CA CAF November 19, 2003
Baltimore, MD MDF December 3, 2003
Texarkana, TX TXF December 10, 2003

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, comparisons to previous editions of the model building codes, and 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: 2000 IBC and Reference Manual. This seminar is worth 7.5 PDHs or 0.75 CEUs. Free publications, a $110.00 value, are included.

Atlanta, GA GAF October 23, 2003
Kansas City, MO MOF December 10, 2003
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 EB0709, and Course Notes. This seminar is worth 15 PDHs or 1.5 CEUs.
Free publications, a $294.50 value, are included.

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<td>Portland, OR</td>
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<td>Minneapolis, MN</td>
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<td>December 4 &amp; 5, 2003</td>
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Repair of Concrete Workshop
Two-day workshop for owners and facility managers, concrete specialists and general contractors, civil and structural engineers, material suppliers, and architects. An in-depth “how-to” on ways to do reliable concrete repairs: determine causes of concrete deterioration, prepare for concrete repair, concrete repair techniques, review research advancements, and actual case histories. Complimentary publications include: ACI 201.1R-92(97), ACI 224.1R-93(98), ACI 503.1-92/503.4-92, ACI 506.R4-94, and ACI 546R-96(01). This seminar is worth 15 PDHs or 1.5 CEUs.
Free publications, a $166.50 value, are included.

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<td>Atlanta, GA</td>
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<td>December 2 &amp; 3, 2003</td>
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NEW—FRP COMPOSITES FOR REINFORCED CONCRETE CONSTRUCTION

One-day seminar for engineers, designers, and contractors. Attendees will learn why the use of FRP for concrete structures has grown so rapidly in recent years. The seminar will include an introduction to FRP materials; fundamentals of FRP bars including mechanical properties; flexural design and, shear design; development, hooks, and splices; strengthening or retrofitting concrete structures with externally bonded FRP systems including construction methods, design, and detailing methods; and actual case studies. Complimentary publications include: ACI 440.1R-03, ACI 440.2R-02, and Course Notes. This seminar is worth 7.5 PDHs or 0.75 CEUs.

Free publications, a $191.00 value, are included.

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<td>Seattle, WA</td>
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Chapter Activities .............................. Luke M. Snell
Construction Liaison ............................ Brad D. Inman
Convention ........................................ Rita K. Oglesby
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    Donald T. Ward
    Charles A. Zalesiak

Staff Liaison ..................................... Renée J. McAdams
Future ACI Conventions

Spring 2004
March 14-18, 2004
Concrete—A Century of Innovation
Washington Hilton & Towers
Washington D.C.

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

Concrete — A Century of Innovation
ACI International
P.O. Box 9094
Farmington Hills, MI 48333-9094
Phone: 248-848-3700
Fax: 248-848-3701

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

Thank you for attending the ACI
Fall 2003 Convention.
See you in Washington D.C.
for the Centennial celebration!