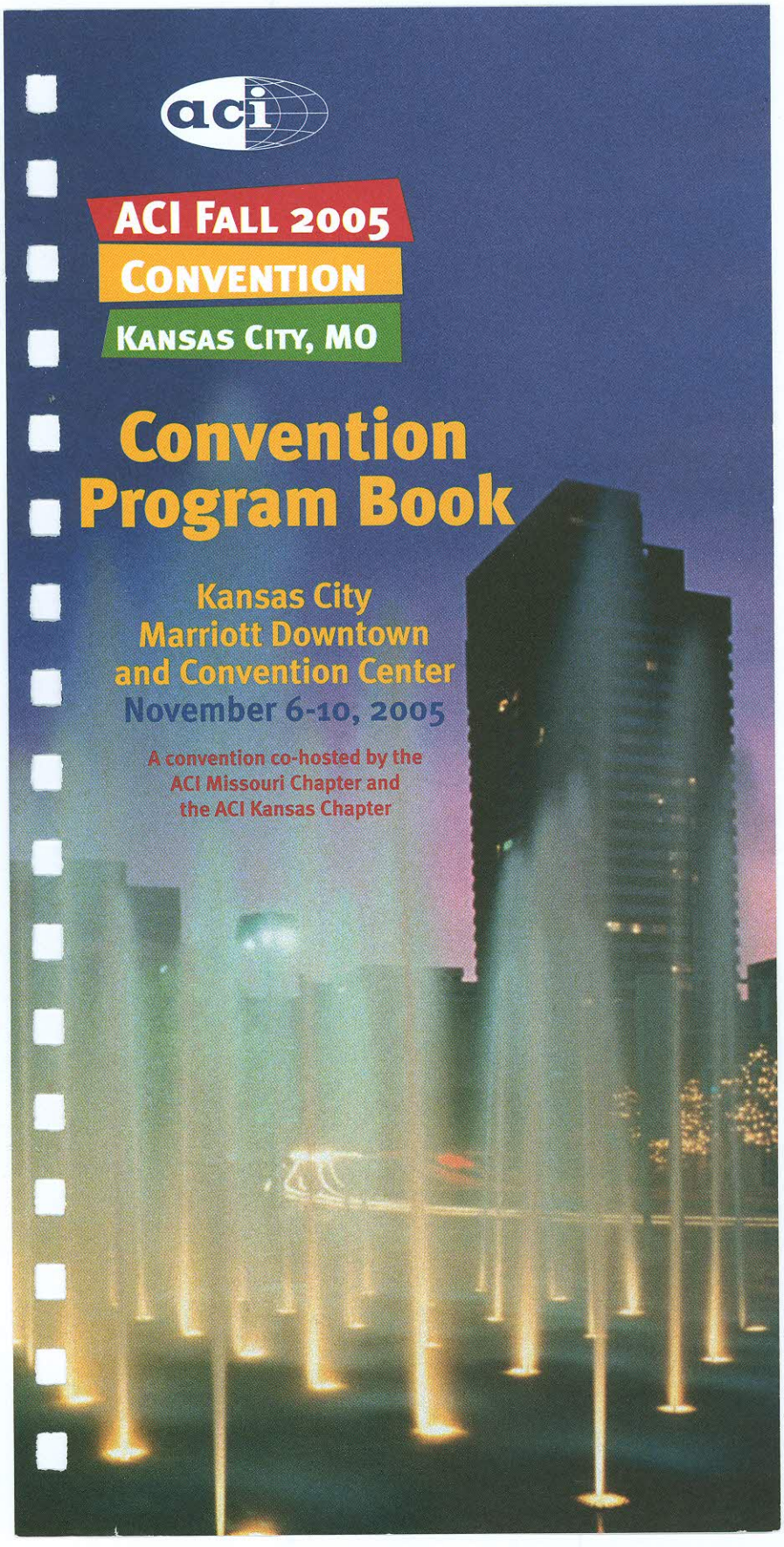

aci
ACI FALL 2005
CONVENTION
KANSAS CITY, MO
Convention
Program Book
Kansas City
Marriott Downtown
and Convention Center
November 6-10, 2005
A convention co-hosted by the
ACI Missouri Chapter and
the ACI Kansas Chapter

Table of Contents
ACI Fall 2005 Convention

November 6-10, 2005
Kansas City Marriott Downtown and Convention Center
Kansas City, MO

American Concrete Institute Board of Direction

President
James R. Cagley

Vice Presidents
Thomas D. Verti
David Darwin

Directors
Sergio M. Alcocer
Ronald G. Burg
Anne M. Ellis
Richard E. Klingner
Thomas O. Malerk
Jon I. Mullarky
Charles K. Nmai
Rita K. Oglesby
Aimee Pergalsky
Basile G. Rabbat
Julio A. Ramirez
Paul J. Tikalsky

Past Presidents
Anthony E. Fiorato
José M. Izquierdo-Encarnación
Terence C. Holland

Executive Vice President
William R. Tolley

President's Welcome

ACI Members and Guests

Due to Hurricane Katrina and the resulting damage, we have had to relocate our Fall 2005 Convention. We would like to offer our best wishes to the ACI Louisiana Chapter and offer them our prayers for their successful recovery both personally and professionally. We also want to thank the New Orleans Convention Committee for all of their efforts preceeding the relocated convention.

I also want to personally thank the ACI Staff for their unparalleled efforts in relocating the convention to Kansas City, Missouri. They have done the "impossible." They have moved a convention for over 1200 people without having to reschedule a single activity, which is amazing. Take the time to thank our staff. They deserve not only our thanks, but also our support.

Welcome to Kansas City—the City of Fountains—and ACI's Fall 2005 Convention. The ACI Kansas Chapter and the ACI Missouri Chapter have stepped up to help sponsor this event. Our hotel, the Kansas City Marriott Downtown is centrally located and close to the Kansas City Convention Center.

The ACI Events Staff, led by Renee Lewis, has done an excellent job rescheduling our exceptional technical and social programs. There will be over 40 technical and educational sessions as well as over 300 meetings. Sunday includes the Opening Session with the Lewis H. Tuthill Lecture by Past President George Hoff, as well as the Student Concrete Cube Competition.

Monday features the Ned H. Burns Symposium honoring one of our great pioneers in the field of prestressed concrete. Monday is also Students' Day, which features a superb luncheon speaker, Cornell University's Ken Hover. Tuesday night will feature the Concrete Mixer, and there will be some wonderful guest tours available as well. We have all of this plus the International Lunch on Wednesday with William F. Baker of Skidmore Owings and Merrill as the featured speaker. Throughout the week, the FRPRCS-7 Symposium will feature 12 sessions highlighted by an Opening Reception and Poster Session on Sunday.

Sharon and I look forward to seeing all of you. Enjoy the convention and thanks for participating in ACI.

Sincerely,

Jim Cagley

Charlotte, NC

March 25-30, 2006
Westin, Hilton & Charlotte
Convention Center

ACI Spring 2006 Convention

Guest Tours and Special Events Include:

- Honorary Dinner for Paul Zia
- A Day with the Queen—City Tour
- Historic Homes and Gardens Tour
- Levine & Mint Museums
- Latta Plantation
- Biltmore Estate
- Concrete Mixer - Kick it Into Gear

aci
bridging the carolinas - fast track innovations

Sustaining Members

Allen Engineering Corp.

Cemex, Inc.

Ash Grove Cement Co.

Concrete Engineering Specialists

Ashford Formula

Construction Materials
Engineering Council - CMEC

Baker Concrete Construction Inc.

CTL Group

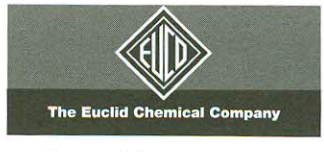
Biaxis Corp.

Dayton Superior Corp.

Boral Material Technologies Inc.

Essroc Cement Corp.

Buzzi Unicem USA



The Euclid Chemical Co.

Sustaining Members

Expanded Shale, Clay/Slate Inst.

Keystone Structural Concrete, Ltd.

Future Tech Consultants

Lafarge North America

W.R. Grace

Lehigh Portland Cement Co.

Ground Heaters, Inc.

Lithko Contracting, Inc.

Headwaters Resources, Inc.

Degussa Admixtures, Inc.

Holcim (US), Inc.

Meadow Burke Products, Inc.

ICS Penetron International, Ltd.

W.R. Meadows, Inc.

Sustaining Members

MUNICIPAL TESTING

Municipal Testing Lab

Sika Corp.

Oztec Industries, Inc.

Spurlino Materials

Portland Cement Assoc.

St. Lawrence Cement Co.

Precast/Prestressed Concrete Institute

Structural Preservation Systems

Structural Services, Inc.

Structural Services, Inc.

ProMix Technologies

Tru Wall Concrete, Inc.

Seretta Construction, Inc.

Westroc, Inc.

SI Concrete Systems

Sustaining Members listed as of 9/28/05

Convention Sponsors

The ACI Louisiana Chapter would like to thank the following organizations who committed to sponsoring the Fall 2005 convention in New Orleans and look forward to recognizing their support again when the New Orleans Convention is rescheduled.

Mardi Gras
ACI Louisiana Chapter

Rex
Degussa Admixtures, Inc.
Lehigh Cement Company
W.R. Grace & Co.

Bacchus
ACI Louisiana Chapter Certification Committee

Zulu
ACI Carolinas Chapter
ACI Greater Michigan Chapter
BOH Brothers Construction
Concrete and Aggregates Association of Louisiana
Waldemar S. Nelson & Co., Inc.

Endymion
ACI Arizona Chapter
ACI British Columbia Chapter
ACI Florida Suncoast Chapter
ACI Georgia Chapter
ACI Greater Miami Valley Chapter
ACI Houston Chapter

Convention Sponsors listed as of 10/13/05.

Convention Sponsors

ACI Illinois Chapter
ACI Las Vegas Chapter
ACI Mid-South Chapter
ACI Missouri Chapter
ACI National Capital Chapter
ACI New Jersey Chapter
ACI New Mexico Chapter
ACI Pittsburgh Chapter
ACI Rocky Mountain Chapter
ACI San Diego International Chapter
ACI Southern California Chapter
ACI Western Michigan Chapter
Badeaux Engineers, Inc.
DMJM Harris, Inc.
Headwaters Resources
Professional Services, Inc.
P.S.I., Inc.

Orpheus
Bernie P. Gaten
Carlo Ditta, Inc.
Delta Testing & Inspection, Inc.
Jeffery, Thomas, Avegno, Inc.
Kulkarni Consultants, APC
Modjeski & Masters
N-Y Associates, Inc.

Centurians
Python Corp.

Convention Sponsors listed as of 10/13/05.

ACI Louisiana Chapter

President
Ryan C. Koenig, URS Consultants, Inc.

Past President
Bernie P. Gaten, Degussa Admixtures, Inc./Master Builders, Inc.

Vice President
Mariano D. Mata, Evans Graves Engineers

Treasurer
Michael A. Devillier, Alpha Testing

Directors
Stephen C. Bourg, URS Greiner Woodward Clyde

Joseph C. Ditta, Carlo Ditta, Inc.

Stephen W. Dortch, Buchart-Horn, Inc.

Jonathan Andrew Sofranko, Morphy Makofsky, Inc.

ACI Louisiana Chapter Convention Committee

Hurricane Katrina may have destroyed many things in New Orleans, but it could not destroy the enthusiasm and dedication shown by the ACI Louisiana Chapter Convention Committee. Thank you for all of your efforts! ACI looks forward to returning to New Orleans for a future convention!

General Chair
William E. Rushing, Jr., Waldemar S. Nelson & Co., Inc.

Co-Chair
Mark A. Cheek, Beta Testing & Inspection

Contractors' Day
Barry D. Fehl, URS Consultants, Inc.
Bernard J. Eckholdt, III, LaFarge Construction Materials

Exhibits
Debbie Reynolds, Concrete & Aggregates Association of Louisiana
Bernie P. Gaten, Degussa Admixtures, Inc./Master Builders, Inc.

Fundraising
Om P. Dixit, DMJM Harris, Inc.

Guest Program
Angela L. Desoto, New Orleans District, Corps of Engineers

Publicity
Thomas Smith, Design Engineering, Inc.

Social Events
Joanne Zanetti, Waldemar S. Nelson & Co., Inc.

Student Program
Norma J. Mattei, University of New Orleans

Technical
Darrell F. Elliot, Buzzi Unicem USA
Subhash V. Kulkarni, Kulkarni Consultants, APC

Treasurer
Donald F. Meyn, Delta Testing & Inspection

ACI Kansas and Missouri Chapters

Thank you to the ACI Kansas and Missouri Chapters! Your support and assistance in relocating the ACI Fall 2005 Convention is appreciated!

ACI Kansas Chapter

Rosemary Copeland, Salina Concrete Sales
Joe Hug, Monarch Cement
John C. Hukey, Dayton Superior
Steven R. Kueffer, Penny's Concrete
Todd LaTorella, American Concrete Paving Association
Christy Martin, Concrete Promotional Group
Michael E. Murray, Murray Decorative Concrete
William E. Odell, Terracon
Richard R. Pikul, Pikul Engineering
Kelly Rotert, PSI
Dave M. Suchorski, Ash Grove
Clifford C. Thummel, Salina Concrete Sales
Randall J. Timi, Pittsburg State University
Brad W. Weiss, Salina Concrete Sales
Eric Wieters, Dudley Williams & Associates

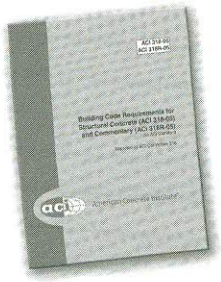
ACI Missouri Chapter

Joe Clendenen
T. Patrick Earney, University of Missouri-Columbia
Michael G. Eilers, Coreslab Structures (Kansas), Inc.
Thiagarajan Ganesh, University of Missouri-Kansas City
Joseph S. Garza, Kienstra Material Service
Mark D. Luther, Holcim US, Inc.
Eric K. Marlinghaus, Quality Testing and Engineering, Inc.
Ronald L. O'Kane, Leigh & O'Kane LLC
David Richardson, University of Missouri-Rolla
Billie Snell, Southern Illinois University Edwardsville
Luke Snell, Southern Illinois University Edwardsville
Lawrence H. Taber, Black & Veatch
Timothy S. Vaughan, SM Wilson

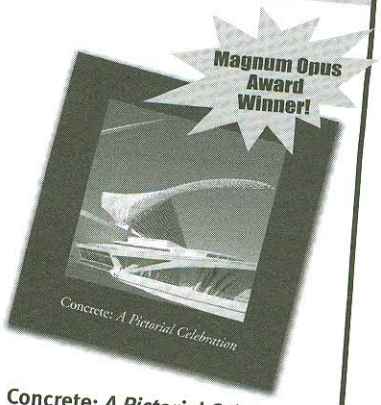
Listing as of 9/28/05

Save 10% at the ACI Bookstore

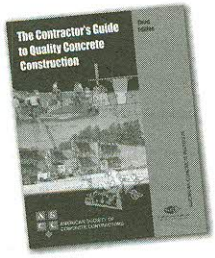
Located in Convention Center Room 4100



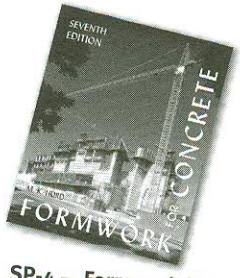
318-05/318R-05
Building Code Requirements for Structural Concrete and Commentary



Concrete: *A Pictorial Celebration*



The Contractor's Guide to Quality Concrete Construction, Third Edition



SP-4 — Formwork for Concrete, Seventh Edition

All ACI publications are 10% off the regular price when purchased at the ACI bookstore. Here's a sample of publications that will be available:

- **301-05** – Specifications for Structural Concrete
- **318-05/318M-05/318S-05** – Building Code Requirements for Structural Concrete and Commentary
- **332-04** – Requirements for Residential Concrete Construction and Commentary
- **423.3R-05** – Recommendations for Concrete Members Prestressed with Unbonded Tendons
- **551.1R-05** – Tilt-Up Concrete Construction Guide
- Concrete: *A Pictorial Celebration*
- **SP-4** – Formwork for Concrete, Seventh Edition
- PCA Notes on ACI 318-05/318R-05
- The Contractor's Guide to Quality Concrete Construction, Third Edition

American Concrete Institute®
Advancing concrete knowledge

Notes

General Information

Convention Registration C-4100

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

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

Name Badges

ACI attaches ribbons to name badges to identify attendees. 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 ★ on their badge. Please welcome them to the convention.

Emergencies

In the event of an emergency, please contact security by dialing **"0"** from any house phone at the Marriott or dial **3-5-1-1-1** at the Convention Center.

Beverage Breaks C-4100

Beverages will be available at the following times. Quantities are limited.

Saturday	2:00 pm - 5:00 pm
Sunday	8:00 am - 10:30 am
	1:00 pm - 4:00 pm sponsored by Holcim (US), Inc.
Monday	8:00 am - 10:30 am
	1:00 pm - 4:00 pm sponsored by Dayton Superior
Tuesday	8:00 am - 10:30 am
	1:00 pm - 4:00 pm sponsored by Dayton Superior
Wednesday	8:00 am - 10:30 am

Alcohol Policy

Nonalcoholic beer and soft drinks are available at all ACI-sponsored receptions. Alcohol will not be served to anyone under the age of 21.

General Information

ACI Bookstore **C-4100**
Visit the ACI Bookstore during the following hours:

Sunday - Tuesday	8:00 am - 5:00 pm
Wednesday	8:00 am - 12:00 pm

Stay Connected to Home & Work!— **C-4100**
Cyber Café and Internet Access
Bring your laptop to utilize the wireless hot spot in C-4100 during posted registration hours. A limited number of Cyber Stations will also be available in the Cyber Café.

At the Kansas City Marriott Downtown, wireless Internet access is available in the hotel restaurants and the meeting rooms for $9.95 for a 24 hour period. High-speed Internet access is also available in your guest room.

Local Information
The ACI Kansas and Missouri Chapters will have an information desk in the **Marriott Tower Main Lobby.**

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

The Marriott Guest Services Desk is available to answer your questions regarding the local area and to make restaurant reservations from 6:00 am - 11:00 pm daily and is located in the **Marriott Tower Main Lobby**.

The Kansas City Convention and Visitors Bureau will also have an information desk to answer questions and to make restaurant reservations in **Room 4100 at the Convention Center**.

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

Restaurants
Kansas City Marriott Downtown
Seattle Roast, located in the Marriott Tower Main Lobby—serves coffee, specialty coffees, juices, bottled water, and Krispy Kreme doughnuts, Monday through Friday, 6:00 am to approximately 10:00 am and Saturday and Sunday, beginning at 7:00 am.

12th Street Lounge, located in the Marriott Tower Main Lobby—Open for cocktails and light dinner fare.

Lilly's Restaurant, located in the Marriott Tower Main Lobby—Traditional American favorites, open for breakfast, lunch, and dinner.

Pam-Pam Restaurant, located in the Muehlebach Tower—Casual atmosphere with counter service—serves traditional American food. Hours based on occupancy.

Muehlebach Lobby Bar, located in the Muehlebach Tower—serves beverages. Open at 4:30 p.m. daily, based on occupancy.

Room Service, 6:00 am to midnight.

For further information on local restaurants, go to **http://www.opentable.com**.

Concession Stand **Outside C-4100**
Breakfast and lunch items will be available for purchase at the Concession Stand Sunday - Tuesday, 8:00 am - 2:00 pm.

Courtesy Shuttles
Courtesy Shuttles for those who have difficulty walking will be available approximately every 15 minutes from the Wyandotte Street Exit of the Muehlebach Tower Lobby at the Marriott, Lobby 400, and Lobby 200 at the Convention Center during the following hours:

Saturday	1:30 pm - 6:30 pm
Sunday	6:30 am - 8:00 pm
Monday	6:00 am - 7:00 pm
Tuesday	6:30 am - 9:00 pm
Wednesday	6:30 am - 7:00 pm

Transportation Around Town
Transportation information cards will be available at the ACI Registration Desk in Room 4100 at the Convention Center and at the ACI Kansas and Missouri Chapters Desk in the Marriott Tower Main Lobby. Be sure to pick one up and carry it with you during the convention!

Taxis are available to any location requested. **Be sure to arrange for your taxi in advance!** Ask the doorman at the Marriott to assist you or call one of the taxi companies listed on the transportation information cards.

The Metro Area Express (MAX) shuttles visitors to the City Market, Brookside Plaza, Liberty Memorial, Union Station, Country Club Plaza, and Crown Center. A $1 fee allows you to ride as many times as you

General Information

like within two hours. Day passes are available for $3 and are valid until midnight the day of purchase. For schedules, frequency, and stop locations, please go to **www.kcata.org** or call 816-221-0660 Monday through Friday 6:00 am - 7:00 pm and Saturday 8:00 am - 5:00 pm.

Airport Transportation
Schedule your return transportation through KCI Shuttle in advance by going to **www.kctg.com**. You must use the group code **S11ACI** to receive the group discount. **Note: Reservations cannot be accepted over the phone.**

Schedule Changes
Cancellations, additions, and location changes in the convention schedule will be posted daily outside Room C-4100 and at the ACI Missouri and Kansas Chapters Desk in the Marriott Tower Main Lobby.

Speaker Ready Room **C-4202B**
The Speaker Ready Room will be open to moderators, speakers, and Committee Chairs during the following hours for your presentation and copying needs.

Friday	12:00 pm - 7:00 pm
Saturday - Tuesday	7:00 am - 7:00 pm
Wednesday	7:00 am - 5:00 pm

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

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

Walkway to Convention Center
The Marriott and Convention Center are connected via an underground walkway. From the Marriott Tower Main Lobby, cross the hotel driveway and take the elevator down to Level 2. From the Muehlebach Tower Lobby, take the stairs or elevator down to the underground walkway. Follow the signs to the Convention Center.

Future Convention Information
Stop by the ACI Carolinas Chapter Desk located in the Marriott Tower Main Lobby for information about the Spring 2006 Convention in Charlotte, NC.

If you would like to receive information for future ACI conventions via e-mail, please e-mail your name to conventions@concrete.org.

ACI Certification 1980-2005

Celebrating 25 years

Since 1980, with the goal to improve the quality of concrete construction, ACI Certification has tested over 250,000 technicians, inspectors, and craftsmen.

Thank you to all of the local sponsoring groups, examiners, committee members and volunteers, past and present, who have made this possible.

25 YEARS OF aci CERTIFICATION

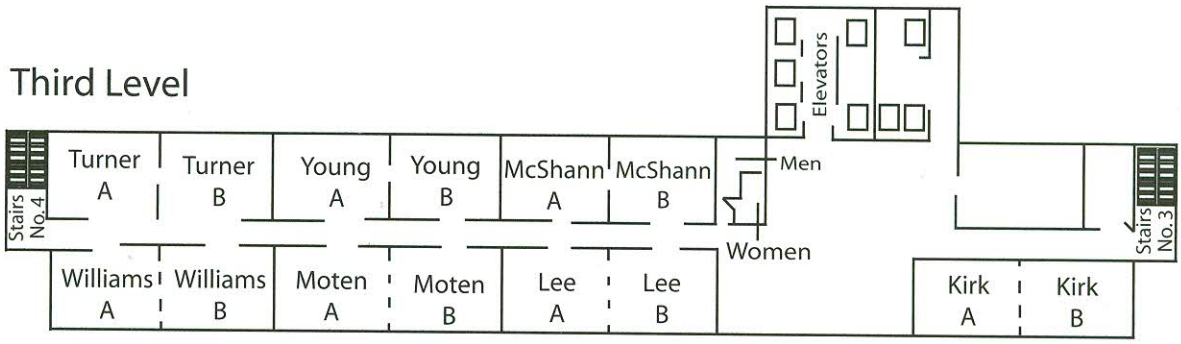
Where's That Meeting Room?

M=Marriott

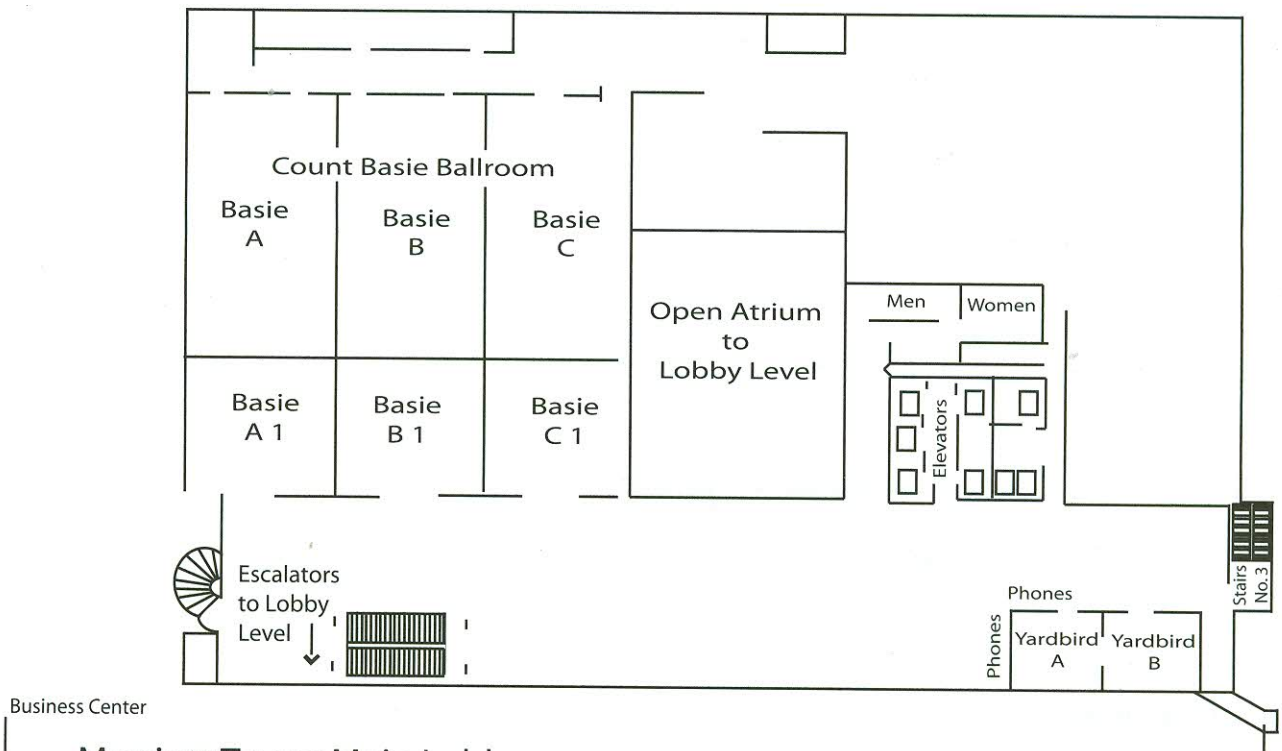
	Abbreviated Name
Marriott Tower, Level 1	
Harvest Room	M-Harvest
Marriott Tower, Level 2	
Count Basie Ballroom	M-Basie Blrm
Basie A	M-Basie A
Basie A1	M-Basie A1
Basie B	M-Basie B
Basie B1	M-Basie B1
Basie B&B1	M-Basie BB1
Basie C	M-Basie C
Basie C1	M-Basie C1
Basie C&C1	M-Basie CC1
Yardbird A	M-Yardbird A
Yardbird B	M-Yardbird B
Marriott Tower, Level 3	
Big Joe Turner A	M-Turner A
Big Joe Turner B	M-Turner B
Lester Young A	M-Young A
Lester Young B	M-Young B
Jay McShann A	M-McShann A
Jay McShann B	M-McShann B
Andy Kirk A	M-Kirk A
Andy Kirk B	M-Kirk B
Julia Lee A	M-Lee A
Julia Lee B	M-Lee B
Bernie Moten A	M-Moten A
Bernie Moten B	M-Moten B
Mary Lou Williams A	M-Williams A
Mary Lou Williams B	M-Williams B
Muehlebach Tower, Lobby Level	
Lobby Bar	
Truman A&B	M-Truman
Truman A	M-Truman A
Truman B	M-Truman B
Colonial Ballroom	M-Colonial
Imperial Ballroom	M-Imperial
Muehlebach Tower, Lower Level	
Barney Allis Lobby	M-Barney Allis
Tea Room	M-Tea

Kansas City Marriott Downtown—Marriott Tower

Third Level



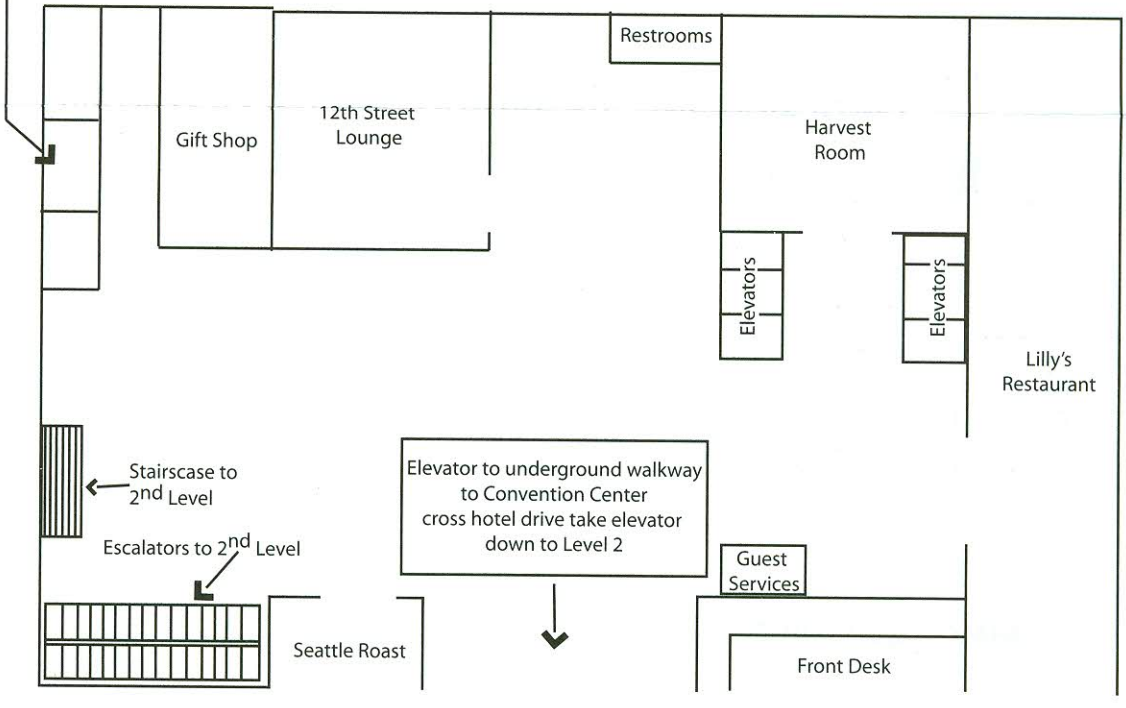
Second Level



Business Center

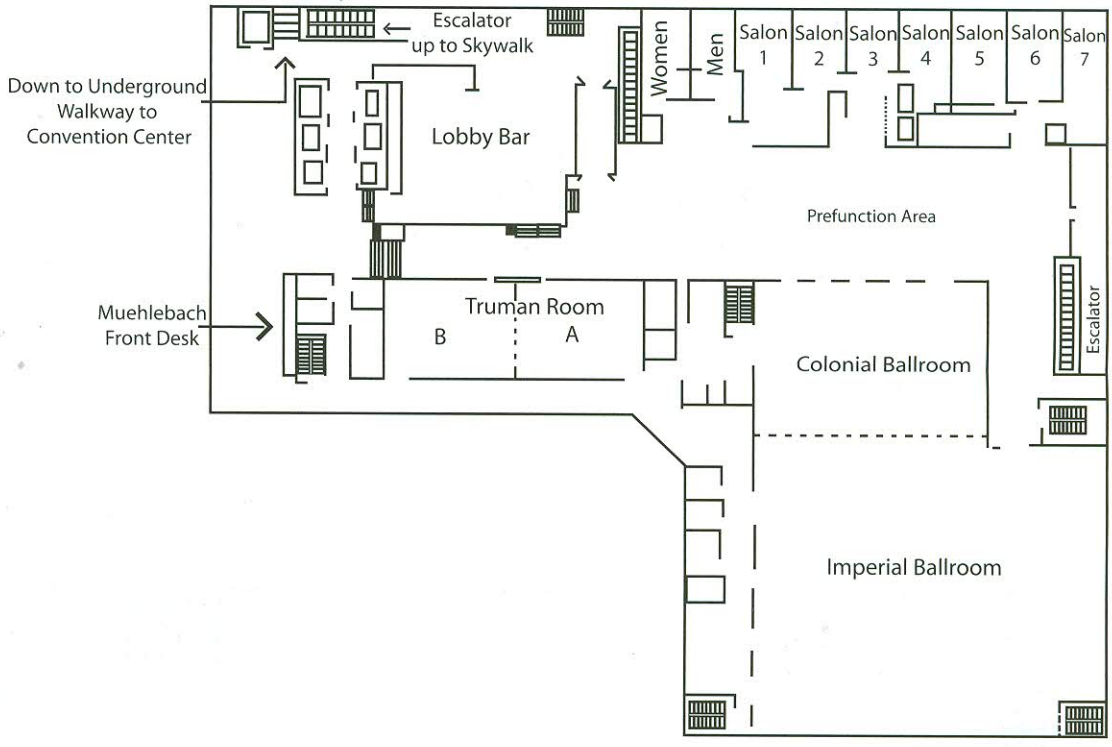
Elevated Walkway to Muehlbach Tower

Marriott Tower Main Lobby

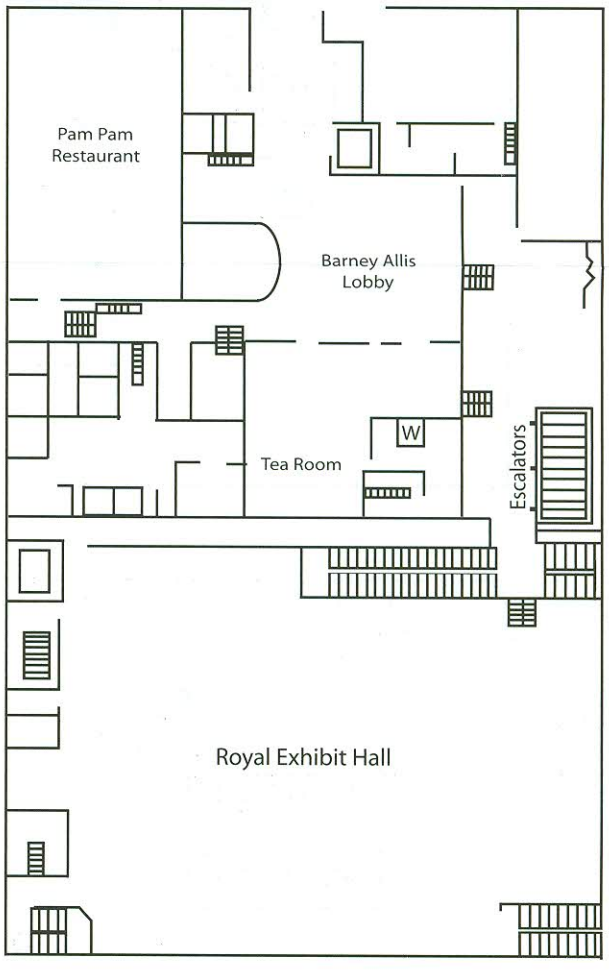


Kansas City Marriott Downtown—Muehlebach Tower

Muehlebach Lobby



Lower Level



Where's That Meeting Room?

C=Convention Center

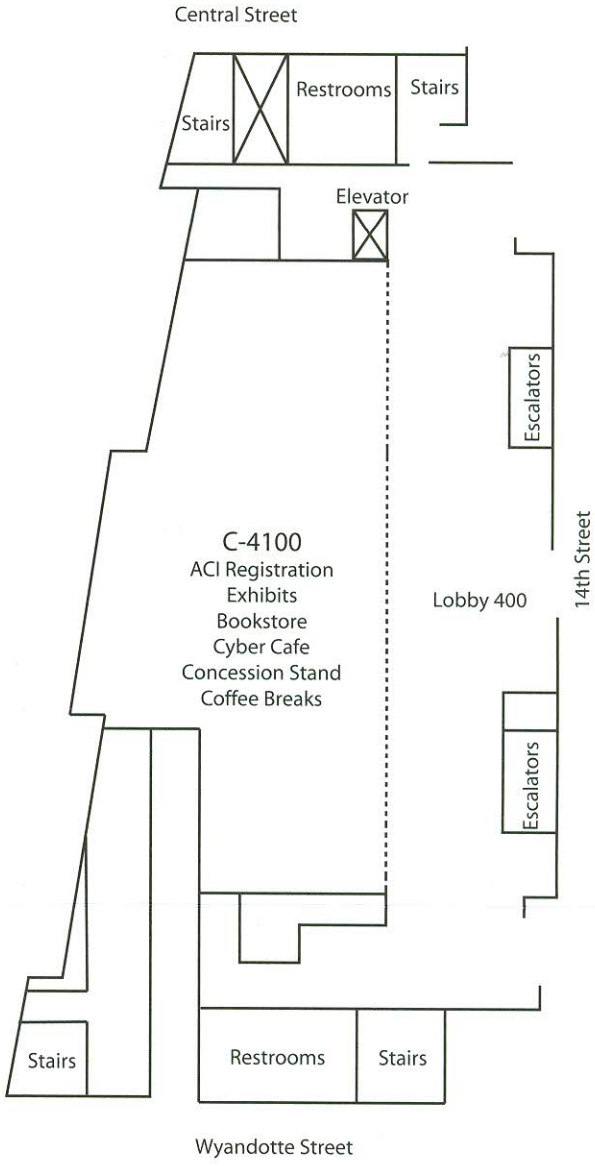
	Abbreviated Name
Convention Center, Level 1	
Lobby 400	C-Lobby 400
4100	C-4100
Convention Center, Level 2	
Lobby 200	C-Lobby 200
2101	C-2101
2102A	C-2102A
2102B	C-2102B
2103A	C-2103A
2103B	C-2103B
2103C	C-2103C
2104A	C-2104A
2104B	C-2104B
2105	C-2105
2201	C-2201
2202	C-2202
2203	C-2203
2204	C-2204
2205	C-2205
2206	C-2206
2207	C-2207
2208	C-2208
2209	C-2209
2210	C-2210
2211	C-2211
2212	C-2212
2213	C-2213
2214	C-2214
2215A	C-2215A
2215B	C-2215B
2215C	C-2215C
4201A	C-4201A
4201B	C-4201B
4202A	C-4202A
4202B	C-4202B
4203A	C-4203A
4203B	C-4203B
4204A	C-4204A
4204B	C-4204B

Where's That Meeting Room?

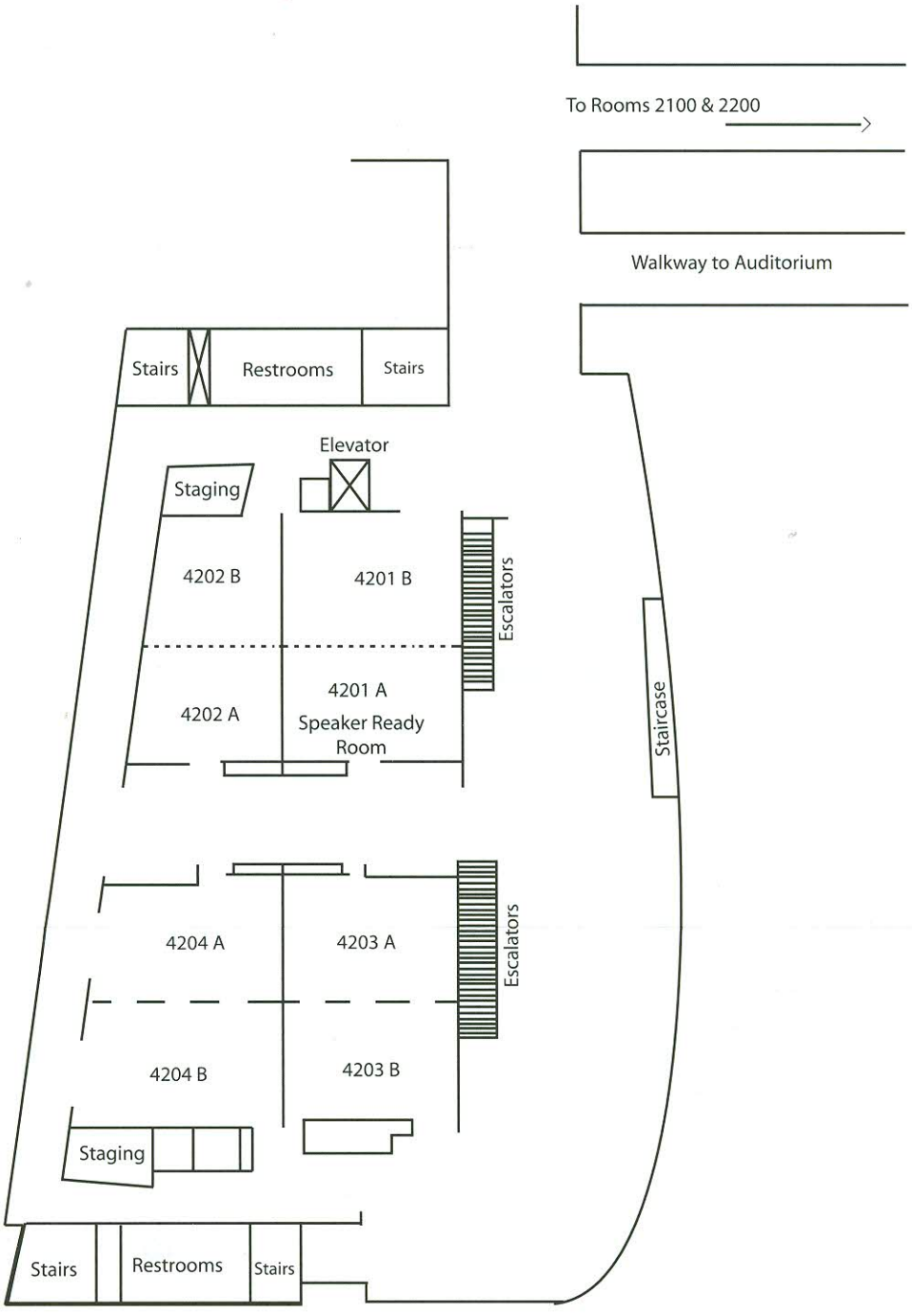
C=Convention Center—continued

Convention Center, Level 3	Abbreviated Name
4300A	C-4300A
4300B	C-4300B
4300C	C-4300C
4300D	C-4300D
4300E	C-4300E
4300F	C-4300F
4300G	C-4300G
4300H	C-4300H

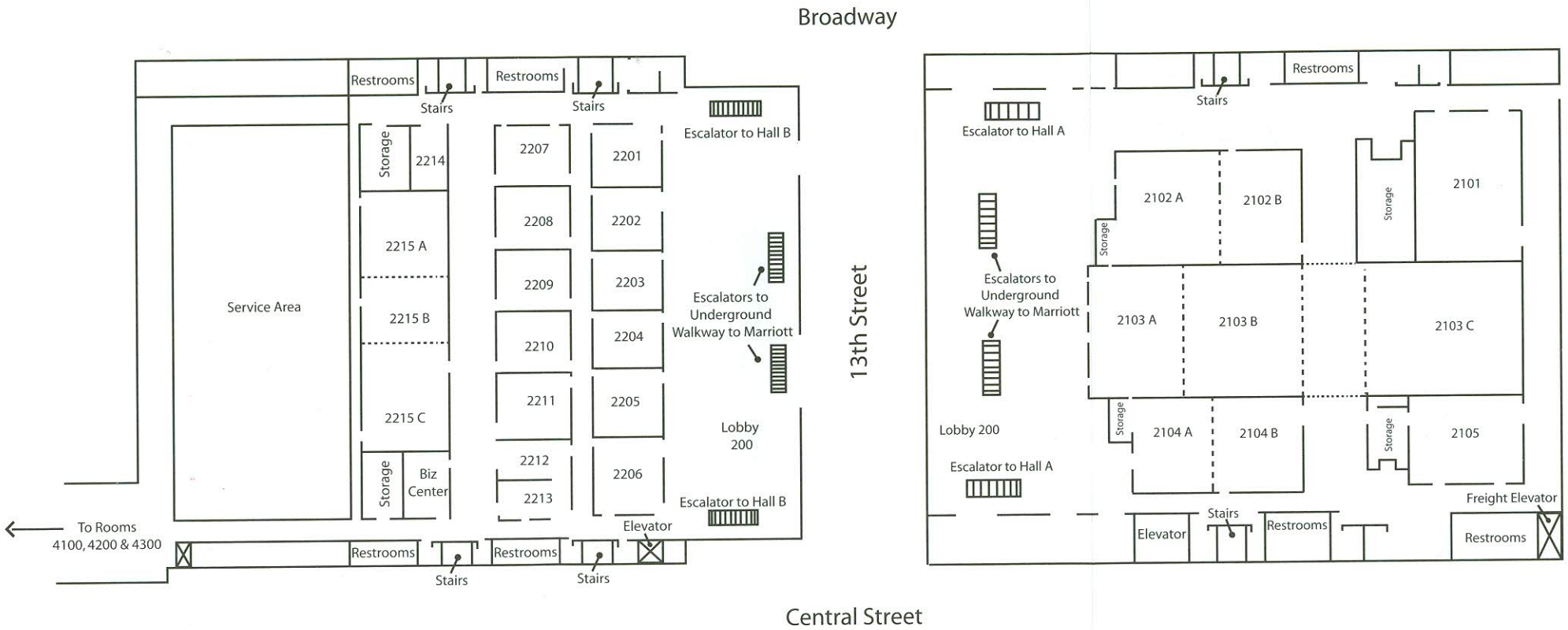
Kansas City Convention Center—Conference Center
Level 1



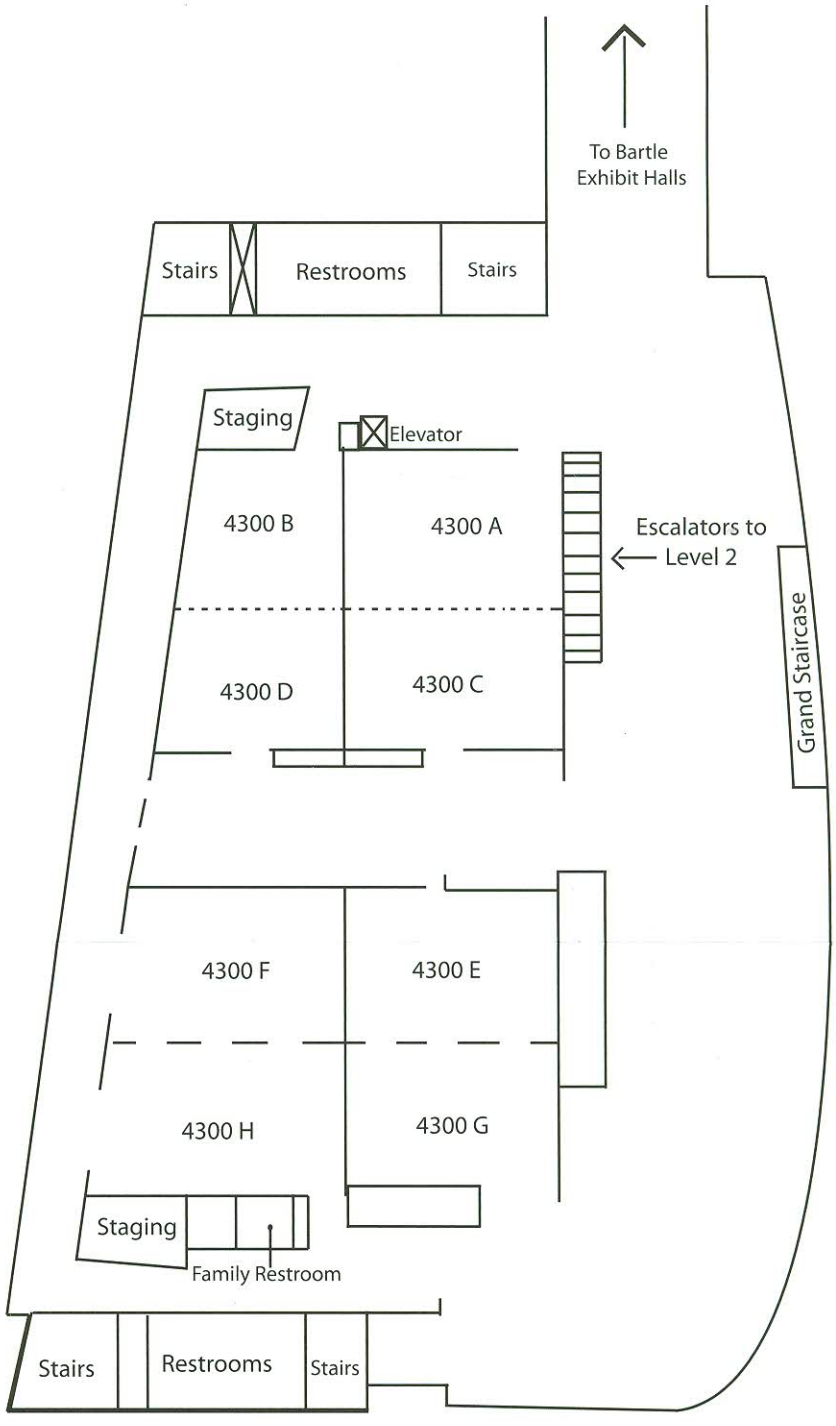
Kansas City Convention Center—Conference Center
Level 2



Kansas City Convention Center—Bartle Hall
Level 2



Kansas City Convention Center—Conference Center
Level 3



Exhibitors

The American Concrete Institute thanks all exhibitors for their participation and willingness to relocate to Kansas City!

Exhibit Hours **C-4100**

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

American Shotcrete Association **Booth #39**

The American Shotcrete Association (ASA) represents parties interested in the promotion and advancement of the shotcrete method for concrete construction. The ASA offers training for nozzlemen preparing to take the ACI nozzleman certification examination. Its mission is to expand the awareness and use of the shotcrete method of concrete construction.

AMERISAFE **Booth #10**

AMERISAFE is an "A-rated" provider of Workers' Comp coverage. We specialize in the logging, transportation, construction, oil & gas, excavation, and agri-business industries. Please visit our website at **www.amerisafe.com** or contact us by e-mail at aiic-mktg@amerisafe.com.

Boral Materials Technology **Booth #14**

Boral Material Technologies is a major processor and marketer of coal combustion products in the United States. With over 40 years of marketing experience, Boral is committed to supplying quality products broadly supported with skilled technical sales professionals. To meet both our customers' present and future needs with coal combustion products, Boral continues its commitment to customer-based research and development and broad-based marketing programs.

Burgess Pigment Co. **Booth #36**

Introducing OPTIPOZZ, a flash calcined specialty pozzolan, or supplementary cementing material, for increased early compressive strength, flexural strength, reduced cracking & shrinkage, and reduced permeability for improved resistance to chemical and environmental attacks. With a particle size smaller than cement, but larger than silica fume, OPTIPOZZ's creamy texture gives easier free-form finishing and improved trowelability. Please request literature or samples through our website at **www.burgesspigment.com**, or contact us by e-mail at info@burgesspigment.com.

Exhibitors

Construction Materials Engineering Council, Inc. **Booth #15**
Construction Materials Engineering Council, Inc., 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.

Dayton Superior Corp. **Booth #21**
Dayton Superior Corp. is a leader in the business of construction solutions. Under our family of trusted brands, Dayton provides pioneering products and dependable customer service for the concrete, masonry, and paving industry. Through integration of innovative and reliable products under unique brands such as Dayton, AHT, Symons, Dur-O-Wal, Conspec, Burke by Edoco, and Superior Decorative, Dayton Superior is a business built upon solutions.

Decon USA, Inc. **Booth #13**
Decon USA, Inc.'s studrails are commonly used in post-tensioned slabs with direct coating on columns. They are a proven cost-effective solution to punching shear. Other products are Macalloy Tension Rod System and Quaketie.

Degussa Admixtures, Inc. **Booth #16**
Degussa Admixtures, Inc., provides industry-leading admixtures for use in improving the aesthetics, placeability, workability, durability, performance, and overall benefits of value-added concrete. Examples of Master Builders brand admixtures and programs that offer great contractor benefits include CHROMIX color-conditioned concrete, rheodynamic self-consolidating concrete (SCC), 4x4 concrete, and liquid sand.

EnergyEdge LLC **Booth #1**
EnergyEdge forms, insulates, and finishes slab-on-grade construction. The EnergyEdge rail is an extruded PVC "E" channel that protects reclaimed insulation and provides a finished surface at the perimeter. The EnergyEdge brace provides support for the EnergyEdge rail and steel reinforcing. EnergyEdge satisfies current Energy Codes and helps qualify for LEEDs.

Exhibitor listing as of 10/14/05

Exhibitors

Engius/Spa Steel, Inc. **Booth #18 & #19**

Engius develops and distributes state-of-the-art concrete testing equipment. The company's flagship product, the intelliRock maturity and temperature profiling system, allows concrete strength and temperature gradients to be monitored in real-time. Engius also provides ThermoCure II and EZ Cure specimen curing boxes, and LOK/CAPO pullout systems.

Epro Services, Inc. **Booth #30**

Our waterproofing and moisture protection systems offer comprehensive and unique systemized solutions for the commercial and residential construction industries for both below grade and above grade. The systems feature innovative, high-performance products and high-productivity application methods.

Essroc Italcementi Group **Booth #6**

At Your Service... Essroc Italcementi Group and its subsidiary AXIM Concrete Technologies are proud to participate in the American Concrete Institute's Fall Convention. Essroc is a leading North American cement producer. As another integral component of the ESSROC family, Axim Concrete Technologies helps lead the way toward total customer satisfaction. Axim is Essroc's Chemical Admixtures manufacturing business that enhances cement and concrete performance. *Essroc Italcementi Group provides innovative solutions for today's customer needs.* Please visit us at **www.Essroc.com** and **www.aximconcrete.com**.

Euclid Chemical Co. **Booth #28**

The Euclid Chemical Co. provides concrete specialty products throughout the United States and worldwide. They include admixtures, curing compounds, floor and slab hardeners, treatments, repair materials, corrosion inhibitors, and solutions.

FORTA Corp. **Booth #25**

FORTA continues to be the most respected name in the synthetic fiber industry. From its revolutionary beginning in Grove City, Pennsylvania, FORTA Corp. has grown to become a worldwide leader in synthetic fiber research and development. From a single grade of fiber, FORTA has expanded their product line to include an entire family of fibers—tailored to specific applications and demands of the international concrete community. Coupled with a dedicated and knowledgeable management team, staff, and workforce, FORTA Corp. will continue to lead the way in building a better concrete future.

Exhibitor listing as of 10/14/05

Exhibitors

Germann Instruments, Inc. **Booth #37 & #38**
Germann Instruments, Inc., are developers and manufacturers of nondestructive testing equipment for durability of new structures, service life estimation, structural integrity fast-track construction, corrosion investigation, repair quality, and monitoring of reinforced concrete structures.

Grace Construction Products **Booth #17**
Grace Construction Products, a business of W.R. Grace & Co., develops and manufactures specialty construction chemicals and building materials including value-added concrete admixtures and fibers, additives for cement manufacturers, masonry products, waterproofing, fire protection, and fire stops materials. **www.graceconstruction.com.**

ISIS Canada Research Network **Booth #7**
ISIS Canada Research Network was established in 1995 to provide civil engineers with smarter ways to build, repair and monitor structures using high-strength, non-corroding, fiber reinforced polymers (FRPs) and fiber optic sensors (FOSs). It was created by the federal Networks of Centres of Excellence (NCE) program and encompasses 14 Canadian universities.

Lafarge North America **Booth #5**
Lafarge North America is the U.S. and Canada's largest diversified supplier of construction materials such as cement and cement-related products, ready mixed concrete, gypsum wallboard, aggregates, asphalt, and concrete products. The company's materials are used in residential, commercial, institutional, and public works construction across the U.S. and Canada.

Lehigh Cement Co. **Booth #20**
Lehigh Cement Co. has served the construction industry in North America for more than 100 years as a producer of high quality portland, blended, and specialty cements and construction materials. The White Cement Division of Lehigh and its affiliates supply white cement to customers throughout the United States and Canada.

Exhibitor listing as of 10/14/05

Exhibitors

Nox-Crete Products Group **Booth #29**

Nox-Crete Products Group is celebrating its 50th anniversary as a worldwide manufacturer of concrete construction chemicals. Selected key product lines include tilt-up bondbreakers, floor hardeners, sealers and polishes, crack control joint fillers, exterior water repellent coatings, decorative sealers and stains, architectural form release agents, and patching materials.

Olson Engineering, Inc. **Booth #9**

Olson Engineering, Inc., provides nondestructive testing and evaluation for the construction and industrial communities. Specializing in internal condition assessment, geophysical and vibration engineering, Olson Engineering develops and manufactures NDT&E instrumentation for the construction and industrial communities. Visit us at our booth for more details.

Omya Canada, Inc. **Booth #11**

Omya is the worldwide leader in high quality calcium carbonate. We promote the usage of fine calcium carbonate fillers (new mineral admixture) to optimize the particle packing of a concrete mix design. It improves green strength, finishes, fluidity, and workability of the mix, and it reduces excessive bleeding and segregation. Savings can be achieved through cementitious content reduction.

Operative Plasterers' and Cement Masons' International Association **Booth #4**

Union plasterers and cement masons are highly regarded for their proud tradition, superior training, skilled craftsmanship, and job safety. In 1864, plasterers and cement masons founded the first Building Trades Union. Today's OPCMIA proudly represents men and women working in the plastering and cement mason trades throughout the U.S. and Canada.

Prism Pigments **Booth #27**

Our world is colorful, and we would like to color your world too. With 14 years of solid service in the iron oxide pigment business, we know our color. We pride ourselves on "color that's made to order," giving you unlimited options and unmatched possibilites.

Exhibitor listing as of 10/14/05

Exhibitors

PROCEQ USA, Inc. **Booth #8**

PROCEQ's concrete testing instruments have long been recognized for their high quality and precision. From their beginnings as the original marketer of the Schmidt concrete test hammer, PROCEQ has broadened its line into the most extensive offering of nondestructive concrete testing instruments available today. Products on display at this year's exhibit will include instruments for concrete strength determination, rebar location, corrosion analysis, void/crack detection, permeability, and bond/pull-out strengths.

QuakeWrap, Inc. **Booth #26**

QuakeWrap, Inc., is a global supplier of fiber reinforced polymer (FRP) products for the repair and strengthening of structures. We offer turnkey solutions, including design supply of materials, and installations, with a strengthening power twice that of steel. Our retrofit products have been featured on the History Channel.

Rampart Hydro Services, Inc. **Booth #23**

Rampart Hydro Services operates the largest fleet of ultra-high pressure (UHP) hydrodemolition and hydrocleaning units in the world. Our units operate at 36,000 psi and 32 gpm. Ultra-high pressure hydrodemolition uses less water, is environmentally friendly, provides a superior bond, and is fast and cost effective. Rampart has used hydrodemolition and hydrocleaning on bridge surfaces and substructures, dams, tunnels, and parking garages. Rampart now offers complete vacuum cleanup of the water and debris creating dry hydrodemolition. We look forward to helping you with your demanding projects.

SI Concrete Systems **Booth #24**

SI Concrete Systems is the global leader in fiber reinforced concrete solutions offering the leading brands of Fibermesh® synthetic fibers, Novocon® steel fibers, and Novomesh® engineered fiber blended systems. We envision fiber reinforced concrete becoming the standard solution to the engineering and design community for concrete challenges in targeted applications. Our primary markets of emphasis are residential, commercial, industrial floors, underground, precast, and transportation.

Exhibitor listing as of 10/14/05

Exhibitors

Sika Corp. **Booth #35**

Sika Corp. 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 Corp. Construction Products Division website at **www.sikausa.com**.

Silica Fume Association **Booth #12**

The Silica Fume Association, through a cooperative agreement with the Federal Highway Administration, provides technology transfer for implementing the use of high-performance concrete in our nation's transportation infrastructure.

Slag Cement Association **Booth #34**

The Slag Cement Association represents producers of slag cement, a recovered industrial product that can partially replace portland cement in concrete. Slag cement improves concrete strength and durability. It also reduces the embodied energy and greenhouse gas associated with a concrete mixture.

TNO Diana **Booth #22**

DIANA is a well proven and tested software with a reputation for handling the most difficult technical problems relating to design and assessment activities in concrete, steel, soil, rock, and structure-soil interaction. The use of DIANA will minimize project risks and reduce the cost of conservatism by providing reliable, accurate, and relevant results.

Vector Corrosion Technologies **Booth #40**

Vector Corrosion Technologies specializes in products and services for extending the service life of concrete structures subject to deterioration caused by corrosion of the reinforcing steel and alkali-silica reaction. Vector's services include concrete condition/corrosion testing, and the supply and installation of the appropriate concrete repair and corrosion protection system.

Exhibitor listing as of 10/14/05

Exhibitors

Vitro Minerals **Booth #33**

Vitro Minerals specializes in advanced pozzolans for high-performance concrete applications including white cement concrete and building products used for architectural panels, cast stones, synthetic stone veneers, roofing tiles, mortars, stucco, grouts, and other white and tinted concrete decorative products. These high-performance white pozzolans are especially desirable in white and colored concrete to add long-term strength and improve durability.

Special Events
Sunday, November 6, 2005

First-Time Attendee Orientation **M-Lee B**
8:00 am - 9:00 am
Sponsored by the Convention Committee

First-time convention attendees are invited to join Rita Oglesby, Past Chair of the Convention Committee, to get acquainted with committee representatives and learn what an ACI convention has to offer. A continental breakfast will be served.

Student Concrete Cube Competition **C-4300B**
1:00 pm - 5:00 pm
Hosted by Committee E 801, and the ACI Missouri and Kansas Chapters

Program Coordinator: John J. Myers

The objective of this competition is to design, construct, and test a concrete structure reinforced with fiber-reinforced polymer (FRP) bars to achieve the optimal load-to-weight ratio, predict the ultimate load, and predict the load that will result in a piston deflection of 2.5 mm (0.1 inch). Come cheer for your favorite team!

During the competition ACI Concrete Projects Competition First Place Winner 2LT Eileen Stiffey, United States Military Academy, will present "Lightweight Concrete Modulus of Elasticity."

Opening Session & The Lewis H. Tuthill Lecture Series **C-4300E-H**
5:15 pm - 6:30 pm

The Opening Session officially kicks off the convention. The Lewis H. Tuthill Lecture Series will be presented by George C. Hoff, who will present: "Pushing the Envelope—An Overview of the New Technology Throughout the Industry." ACI Chapter officers and various special guests will be recognized during the evening. The ACI Distinguished Achievement Award will be presented to the Concrete and Aggregate Association of Louisiana (CAAL) for their outstanding contributions to the concrete industry.

Special Events
Sunday, November 6, 2005

Opening Reception **C-4100**
following the Opening Session—approximately 6:30 pm - 7:30 pm
Sponsored by ACI

Meet your colleagues, ACI friends, and exhibitors for a beverage from the cash bar and a light snack before heading out to dinner at one of Kansas City's fantastic restaurants. ***Please note: Beverage tickets for events with cash bars must be paid for with cash and cannot be charged to a credit card.***

FRPRCS-7 Symposium Opening Reception and Poster Session **M-Truman**
7:30 pm - 9:00 pm
Sponsored by Committee 440

FRPRCS-7 welcomes a global concrete community and conference attendees to an opening reception. This event provides attendees with the opportunity to network with colleagues while viewing the latest advances using FRP composites and concrete in a special Poster Session. Attendees can meet with the presenters as well as other researchers and practitioners and exchange professional viewpoints in a casual atmosphere.

Hot Topic Session—Can Concrete Survive Blast and Fire? **M-Basie CC1**
7:30 pm - 10:00 pm
Session Moderator: H.S. Lew

Due to the terrorist acts of 9-11-01, many existing structures are being retrofitted and new structures designed to be better able to resist blast and fire through the use of concrete. This Hot Topic Session, sponsored by the Hot Topic Committee, will present: 1) how to quantify blast and fire loads on concrete structures: 2) factors that should be considered in the design and detailing of new structures and retrofit of existing structures: and 3) modeling of concrete structures under blast and fire loading.

Special Events
Monday, November 7, 2005

✓Student Lunch **C-4300D**
$46 U.S. per person
12:00 pm - 2:00 pm
Hosted by Committee E 801

Speaker: **Kenneth C. Hover**
Professor of Structural Engineering
Cornell University
Ithaca, NY

Topic: **The Scope of the Concrete Industry**

Much of the excitement and fascination of our industry originates in its mind-boggling scope. We convert earth materials that were formed millions of years ago into a versatile building material that begins to react in seconds, can set in minutes, gains strength in hours, carries design loads in days (or less), and can perform its intended function for centuries. We measure the physical dimensions of concrete projects in kilometers, individual members in 10s of meters, the human dimension in meters, coarse aggregates and rebar in centimeters, sand in millimeters, and features of hardened cement paste in nanometers. As ACI membership proves, there is time and space and a unique scale for all of us.

Following lunch, awards will be given to the first, second, and third place winners of the Student Concrete Cube Competition.

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

Women in ACI Reception **M-Basie A1**
5:00 pm-6:00 pm

Gather with friends and colleagues to enjoy light refreshments and good conversation. All are invited to attend this reception sponsored by Hanley Wood.

hanley▲wood

✓Separate fee required

Special Events
Monday, November 7, 2005

✓Ned H. Burns Reception **M-Basie BB1**
5:00 pm - 6:30 pm
Advance registration required (150 people maximum)
Sponsored by ACI Committee 423

A member of the National Academy of Engineering, Burns has been a true pioneer in prestressed concrete and has made significant contributions as an engineer, researcher, and educator. As a professor at the University of Texas at Austin and an ACI Fellow, Burns has also played a significant role in shaping the careers of many current and past ACI members. Please join in this celebration honoring his extensive contributions to advancements in the design and construction of prestressed concrete structures over the past five decades.

123 Forum—Should the Concrete Materials Specifications be Rewritten? **M-Basie CC1**
7:30 pm - 10:00 pm
Session Moderator: Mohammad S. Khan

The debate, sponsored by Committee 123, is whether we should rewrite concrete materials specifications. In this forum, we will examine whether it is non-compliance to specifications that has lead to concrete quality problems or whether the specifications themselves are the problem. Our panelists in Kansas City will address these and many other questions and, after discussing the subject with them, you should be able to make an assessment whether the concrete materials specifications should be rewritten.

✓Registration required

Special Events
Tuesday, November 8, 2005

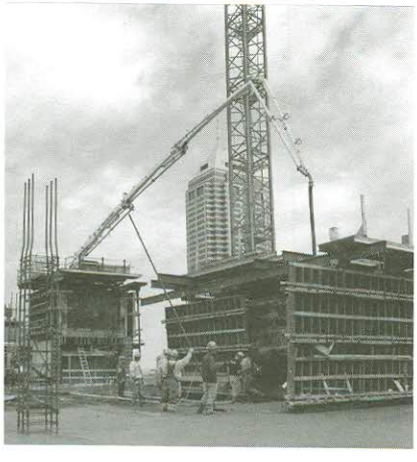
✓**Contractors' Day Lunch** **C-4300D**
12:00 pm - 2:00 pm
$48 U.S. per person

Hosted by the ACI Kansas and Missouri Chapters and the Construction Liaison Committee

Speaker: **Neal Burnett**
Operations Manager
Baker Concrete Construction, Inc.
Indianapolis, IN

Topic: **Conrad: A Five Star Concrete Structure**

The discussion will consist of exploring construction difficulties encountered, as well as a systems approach with regard to site logistics, with the construction of the Conrad Indianapolis Hotel.



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

✓**Separate fee required**

Special Events
Tuesday, November 8, 2005

Faculty Network Reception **M-Harvest**
5:00 pm - 6:00 pm

Hosted by Committee E 803, this reception offers informal networking and idea exchange for all faculty members and students attending the ACI Convention. A cash bar and light hors d'oeuvres will be available.

Concrete Mixer **C-2103**
6:30 pm - 8:00 pm

Sponsored by ACI

Welcome to Kansas City! Enjoy a taste of Kansas City including some terrific barbecue while networking and conversing with your friends and colleagues.

Please use your drink tickets in your registration packet or cash to purchase beverages.

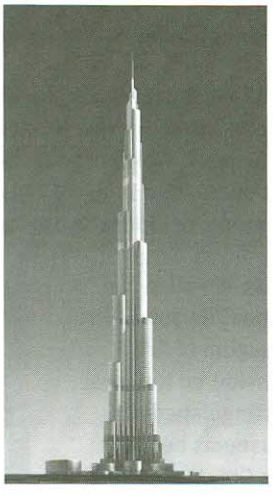
Special Events
Wednesday, November 9, 2005

✓**International Luncheon** **C-2215C**
12:00 pm - 2:00 pm
$54 U.S. per person

Hosted by the International Committee

Speaker: William F. Baker
Partner, Structural and Civil Engineering
Skidmore, Owings & Merrill LLP
Chicago, IL

Topic: Uniqueness of the Burj Dubai—Design to Construction



At over 2000 feet high and located in the United Arab Emirates, the Burj Dubai (Tower Dubai) will be the world's tallest structure when completed. The final height of this super skyscraper will certainly exceed the current record holder—the 1671 ft. tall Taipei 101 building. Construction of the tower commenced in the fall of 2003, and is scheduled to be completed in 2008. The 3,000,000 sq. ft. building will include residential, commercial, hotel, entertainment, and retail facilities.

The reinforced concrete tower has a "Y" shape to dramatically reduce the wind forces on the tower, keeping the structure simple and fostering constructibility. The Y-shaped floor plan also maximizes views of the Arabian Gulf. As the principal structural designer, Mr. Baker will discuss many unique challenges of the design and construction of the Burj Dubai.

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

✓**Separate fee required**

Guest Events and Tours
Sunday, November 6, 2005

Tours
Tickets for tours may be purchased at the ACI Registration Desk in Room 4100 of the Convention Center during posted registration hours.

Guest Overview **M-Harvest**
8:30 am - 9:30 am

Acquaint yourself with the week ahead. Also, get a sneak peek at the guest programs for the ACI Spring 2006 Convention in Charlotte, NC, and the ACI Fall 2006 Convention in Denver, CO.

✓**Benton House & Nelson-Atkins Museum**
9:30 am - 2:30 pm
$68 U.S. per person
Includes lunch, guided tour, and transportation
22 people minimum, 44 people maximum

The first stop of the day will be the Victorian-style house of the late Thomas Hart Benton, Missouri's most renowned 20th century artist. The house, which is on the National Register of Historic Places, was his home from 1939 until his death in 1975 and contains many of Benton's personal belongings.

Next, it's off to the famous Nelson-Atkins Museum of Art, considered the most distinguished of museums between the Great Lakes and the Pacific Ocean. A private, docent-guided tour will highlight the museum's prestigious collection of American Art.

You will enjoy lunch in the Museum's beautiful Rozzelle Court Restaurant. Fashioned after an open-air Italian courtyard, the Rozzelle Court offers a light and relaxing setting for a midday repast.

✓Separate fee required
All tours will depart from the Marriott Tower Main Lobby of the Kansas City Marriott Downtown.

Guest Events and Tours
Monday, November 7, 2005

✓**Steamboat Arabia Museum & Country Club Plaza**
9:00 am - 2:00 pm
$52 U.S. per person
Includes guided tour, transportation, and admission fees
22 people minimum, 44 people maximum

Throughout this tour, various attractions and monuments will be highlighted, including: the Lewis & Clark point overlooking the Missouri River; Union Station; Liberty Memorial; Westport, where the California, Santa Fe, and Oregon Trails intersected; and the Country Club Plaza with its beautiful J.C. Nichols Fountain. Next, you'll take a journey back through time—to 1856 and the Steamboat "Arabia" Museum.

Recovered in 1989, her cargo, which was preserved by river mud through the years, included china, jewelry, clothing, tools, firearms, spirits, bottled fruits, boots and shoes, plus hundreds of other items—all still in pristine condition and beautifully displayed.

Lunch (*on your own*) and the remainder of the tour will be spent at the famous Country Club Plaza. Modeled after Seville, Spain, by developer J.C. Nichols, the Country Club Plaza was constructed in the late 1920s. Encompassing over 55 acres, the Plaza is home to more than 180 upscale shops and restaurants, including Saks Fifth Avenue, Mark Shale, Polo, J. Crew, Barnes & Noble, The Sharper Image, Betsey Johnson, and Brooks Brothers. Wonderful dining is available at Capitol Grill, Ruth's Chris Steakhouse, the Cheesecake Factory, George Brett's, PF Chang's, McCormick & Schmicks, Brio Tuscan Grille, Figlio and Buca di Beppo. Guests will have ample time to visit their choice of the many specialty and upscale stores, boutiques, and restaurants before the conclusion of the tour.

Guest Tea and Open House **Muehlebach Tower M-1856**
3:00 pm - 5:00 pm

Please join Mrs. Sharon Cagley for tea between the hours of 3:00 pm and 5:00 pm in the Truman Suite, Room 1856, located in the Muehlebach Tower.

✓**Separate fee required**
All tours will depart from the Marriott Tower Main Lobby of the Kansas City Marriott Downtown.

Guest Events and Tours
Tuesday, November 8, 2005

✓**Harry S. Truman Presidential Library & Hometown**
9:00 am - 3:00 pm
$84 U.S. per person
Includes lunch, guided tour, transportation, and admission fees
22 people minimum, 44 people maximum

We begin our tour with a short drive to the Harry S. Truman Presidential Library in Independence, Missouri, the home of our 33rd President of the United States. The Truman Library is one of only eight Presidential libraries in the U.S. administered by the National Archives and Records Administration. In addition to visiting the Truman Library, we'll also have the opportunity to view not only the Old Independence Square and Courthouse where Harry's office as county judge in 1933 was located, but also the "Summer White House" of Harry and Bess Truman.

From there it is a short drive to lunch at the Webster House. The Webster House is a lovingly restored former schoolhouse that was built in 1885. In the striking Romanesque Revival Style, it is believed to be the oldest standing Kansas City Public School structure and is listed on the National Register of Historic Places. Since its closing in 1932, Proprietor Shirley Bush Helzberg has now restored the building to its current beauty, having received numerous awards for the restoration and design. In 2002 it reopened its doors to the Webster House Antiques and Restaurant.

✓**Separate fee required**
All tours will depart from the Marriott Tower Main Lobby of the Kansas City Marriott Downtown.

Guest Events and Tours
Wednesday, November 9, 2005

✓**Toy & Miniature Museum and Kemper Museum of Contemporary Art**
9:00 am - 2:00 pm
$82 U.S. per person
Includes lunch, guided tour, transportation, and admission fees
22 people minimum, 44 people maximum

Our excursion today begins with views of Country Club Plaza and the many fountains throughout downtown. The first stop will be the Toy & Miniature Museum where you will find miniatures, toys, dolls, and dollhouses from every generation, dating from the 19th century to the present. The antique toys offer a nostalgic look at craftmanship from years gone by – ranging from the very simple to the very complex. You also won't want to miss the always-changing temporary exhibit. Take a trip back to your childhood and enjoy all the wonders of youth.

Enjoy lunch at Café Sebastian and the balance of the afternoon at the Kemper Museum of Contemporary Art where annual programs of temporary exhibitions feature site-specific installations, performance work and artwork using contemporary technologies such as solar power, lasers, and computers by international artists working in all media.

The museum's permanent collection includes works by such artists as Jasper Johns, Helen Frankenthaler, Frank Stella, Robert Rauschenberg, David Hockney, Robert Motherwell, Nancy Graves, Wayne Thiebaud, Grace Hartigan, William Wegman, Red Grooms, Georgia O'Keeffe, Christopher Brown, Willem de Kooning, and Robert Mapplethorpe.

✓Separate fee required
All tours will depart from the Marriott Tower Main Lobby of the Kansas City Marriott Downtown.

Notes

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Friday, November 4, 2005

6:00 pm - 9:00 pm

TAC	Technical Activities M1	C-4203B

Saturday, November 5, 2005

7:00 am - 6:00 pm

TAC	Technical Activities M2	C-4300A

8:00 am - 9:00 am

TAC-RG1	TAC Review Group 1 M1	C-4300A
TAC-RG2	TAC Review Group 2 M1	C-2205
TAC-RG3	TAC Review Group 3 M1	C-2204

8:00 am - 5:00 pm

EAC	Educational Activities M1	M-McShann A

7:30 pm - 10:00 pm

347-A	Formwork-Specification	M-McShann A

Sunday, November 6, 2005

7:00 am - 9:00 am

TAC-TG on ATA	TAC Task Group on ATA Review	C-2207

7:00 am - 1:00 pm

TAC	Technical Activities-M3	C-4300C

8:00 am - 9:00 am

TAC-RG1	TAC Review Group 1 M2	C-4300C
TAC-RG2	TAC Review Group 2 M2	C-2209
TAC-RG3	TAC Review Group 3 M2	C-2210
	First-Time Attendee Orientation	M-Lee B

8:00 am - 10:00 am

E 801	Student Activities	M-Kirk B
440-C	FRP-State of the Art	C-4300A

8:30 am - 10:00 am

IC-Pub	International-Publications/Website	M-Young B
301	Specifications M1	C-2215A
341-A	Equake Res Brdgs-Columns	C-2213
373	Prestressed/Tendons	C-2203
546-B	Repair-Material Selection Guide	C-2202

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Sunday, November 6, 2005—continued

8:30 am - 10:30 am

201-C	Durability-Condition Survey	C-2206

8:30 am - 11:30 am

CLC	Construction Liaison	M-Young A
MEMC	Membership	M-Williams A&B
315-B	Detailing-Constructibility	C-2204
369	Seismic Rehab	C-2201
408	Bond & Development	C-2215B

8:30 am - 12:30 pm

551	Tilt-Up	C-2205

8:30 am - 1:00 pm

347	Formwork	C-2215C

8:30 am - 2:00 pm

376	RLG Containment Structures	C-4202B

8:30 am -5:00 pm

355	Anchorage	C-2208

9:00 am - 11:00 am

IC-Conf	International-Conferences	M-Kirk A

Sessions

9:00 am - 12:00 pm

Innovations in Mass Concrete	C-4203
Introducing Concrete Aggregates	C-4204A
Recommendations for Load Test Magnitude and Acceptance Criteria for Strength Evaluation of Existing Concrete Buildings	C-4203B
★ The Architect and Concrete—From Aesthetic Vision to Concrete Reality	C-4204B
Punching Shear in Reinforced Concrete Slabs, Part I	C-4202A

10:00 am - 11:30 am

IC-Part	International Partnerships Committee	M-Young B
341-C	Equake Res Brdgs-Retrofit	C-2213
342	Bridge Evaluation	C-2207
350-C	Env Str-Reinf & Devel	C-2215A

★ **Denotes theme session**

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Sunday, November 6, 2005—continued

10:00 am - 11:30 am—continued

439-B	Steel Reinf-Mechanical Splices	C-2212
546-A	Repair-Underwater	C-2202

10:00 am - 12:00 pm

440-H	FRP-Reinforced Concrete	C-4300A
506-G	Shotcreting-Nozzleman Training	C-2210
549-A	Thin Reinforced-Premix GFRC	C-4300D

10:00 am - 1:00 pm

SCO	Scholarship Council (ConRef)	M-Kirk B
421	Reinf Slabs	C-2203
445-A	Shear & Torsn-Strut & Tie	C-2214

10:00 am - 2:00 pm

423	Prestressed	C-2209

10:00 am - 4:00 pm

ITG-5	Precast Shear Walls for High Seismic Applications	C-2211

11:00 am - 1:30 pm

335	Composite-Hybrid	C-2206

11:30 am - 1:00 pm

C 630-T	Transportation Inspector Cert	C-2202
E 706	Repair Application Procedures	M-Kirk A
HTC	Hot Topic	M-Young B
221	Aggregates	C-2201
341-B	Equake Res Brdgs-Pier Walls	C-2213
345	Bridge Construction	C-2215B
350-SC	Env Str-Steering Comm	C-2215A
439-C	Steel Reinf-Mech Bar Develop	C-2212

11:30 am - 2:00 pm

302-TG	Floor Construction Task Group	C-2204

11:30 am - 2:30 pm

445-B	Shear & Torsn-Seismic Shear	C-2207

12:00 pm - 2:00 pm

440-L	FRP-Durability	C-4300A

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Sunday, November 6, 2005—continued

12:30 pm - 2:00 pm

343-A	Bridge Design	C-2205

12:00 pm - 3:30 pm

549	Thin Reinforced	C-4300D

1:00 pm - 2:30 pm

341-D	Equake Res Brdgs-Performance Based Seismic Design	C-2213

1:00 pm - 3:00 pm

AC-SD	Board Advisory Committee on Sustainable Development	M-Moten A & B
IC-Mem	International-Membership	M-Kirk A
445-C	Shear & Torsn-Punching Shear	C-2210

1:00 pm - 5:00 pm

ACI/AISC	ACI/AISC Coordination	C-4300C
301-A	Spec-General Requirements	C-2214
301-C	Spec.-Mixtures, Place, Constr.	C2201
301-E	Spec-Prestressed	C-2215A
301-G	Spec-Precast Concrete & Tilt-Up Constr	C-2215C
364-A	Rehabilitation-Evaluation	C-2203

Special Event

1:00 pm - 5:00 pm

	Student Concrete Cube Competition	C-4300B

1:30 pm - 3:30 pm

506-B	Shotcreting-Fiber-Reinforced	C-2206

2:00 pm - 3:30 pm

IC-Cert	International-Certification	M-Kirk B
215	Fatigue	C-4300A

2:00 pm - 5:00 pm

RCC	Responsibility	M-Young B
121	Quality Assurance	C-2201
305	Hot Weather	C-2101
315	Detailing	C-2204
336	Footings	C-2102B

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Sunday, November 6, 2005—continued

2:00 pm - 5:00 pm—continued

343	Bridge Design	C-2205
352	Joints	C-2102A
375	Design for Wind Loads	C-4202B
439-A	Steel Reinf-Wire	C-2212
445-E	Shear & Torsn-SOA Torsion	C-2209

Sessions

2:00 pm - 5:00 pm

Emerging Technologies in Civil Infrastructure Applications	C-4204A
State-of-the-Art Practice in Health Monitoring Systems and Data Management for Infrastructure	C-4203B
★ Spice Up Your Concrete with FRP Composites	C-4204B
Innovations in FRP Material Testing and Characterization	C-4203A
Punching Shear in Reinforced Concrete Slabs, Part II	C-4202A

2:30 pm - 5:00 pm

370	Dynamic & Vibratory Effects M1	C-2202

3:00 pm - 4:30 pm

236-C	Material Science-Virtual Concrete	C-2210
506-D	Shotcreting-Swimming Pools	C-2213

3:00 pm - 5:00 pm

E 601	Seminar Oversight Committee	M-Moten A&B
341	Earthquake-Resistant Bridges	C-2207

3:30 pm - 5:00 pm

E 701	Materials for Concrete Construction	M-Kirk A
IC	International Committee	M-Williams A&B
232-A	Fly Ash-Use of Nat Pozzolans	C-4300D
236-B	Material Science-Permeation Methods	C-4300A
309	Consolidation	C-2206

4:00 pm - 5:00 pm

201-A	Durability-Sulfate Attack M1	C-2211

★ Denotes theme session

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Sunday, November 6, 2005—continued

Special Events

5:15 pm - 6:30 pm

Opening Session and The Lewis H. Tuthill Lecture Series — C-4300E-H

6:30 pm (approximately)

Opening Reception — C-4100

6:30 pm - 10:00 pm

ITG-4 High-Strength Concrete for Seismic Applications M1 — M-Kirk A

7:00 pm - 9:00 pm

370 Dynamic & Vibratory Effects M2 — C-2202

Special Event

7:30 pm - 9:00 pm

FRPRCS-7 Symposium Opening Reception & Poster Session — M-Truman

Session

7:30 pm - 10:00 pm

Hot Topic Session—Can Concrete Survive Blast and Fire? — M-Basie CCI

Monday, November 7, 2005

6:30 am - 8:15 am

Workshop for Technical Committee Chairs (*invitation only*) — C-4300D

8:00 am - 10:00 am

PUBC Publications — M-Moten A&B

8:30 am - 10:00 am

C 650	Tilt-Up Cert	C-2102A
E 802	Teaching Methods and Educational Materials	M-Young B
118	Computers	C-2205
124	Aesthetics	C-4300C
201-A	Durability—Sulfate Attack M2	C-4300H
304	Measuring/Mix/Trans/Placing	C-2215A
506-A	Shotcreting-Evaluation	C-2206
544-B	FRC-Education	C-2214

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Monday, November 7, 2005—continued

8:30 am - 10:30 am

ACI 318/ASCE7	ACI 318/ASCE7 Coordination Meeting	C-2212

8:30 am - 11:30 am

C 610	Field Technician Cert	C-2102B
MKTC	Marketing	M-Williams A&B
209	Creep & Shrinkage	C-4202B
237	Self-Consolidating Concrete	C-2215B
311	Inspection	C-2215C
351-A	Equip Fdns-Static Fdns	C-2213
437	Strength Evaluation	C-2207
524	Plastering	C-2208
546	Repair	C-4300A
548-A	Polymers-Overlays	C-4300E

8:30 am - 12:30 pm

374	Seismic Design	C-2209

8:30 am - 1:00 pm

301-B	Spec-Formwork & Rein	C-2202
301-C	Spec-Mixtures, Place, Constr	C-2201
301-D	Spec-Arctl, LWC, Mass, Shrinkage	C-2201
301-F	Spec-Industrial Floors	C-2203
301-H	Spec-Architectural Concrete	C-2204
302	Floor Construction	C-4300F

8:30 am - 2:00 pm

307	Chimneys	C-4300G

8:30 am - 6:30 pm

350-D	Env Str-Structural	C-2210
350-E	Env Str-Precast/Prestressed	C-2211

9:00 am - 12:00 pm

362-B	Parking Str-Editorial	C-4300B

Sessions

9:00 am - 12:00 pm

	Research in Progress	C-4204B
	Ned H. Burns Symposium—Historic Innovations in Prestressed Concrete, Part I	C-4204A

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Monday, November 7, 2005—continued

Sessions—continued

9:00 am - 12:00 pm

	★Silica Fume in Concrete—A Spice for Many Purposes, Part I	C-4202A
	Strengthening of Existing Masonry Structures with FRP Systems	C-4203A
	Bond of FRP Bars, Sheets, Laminates, and Anchorages to Concrete	C-4203 B

10:00 am - 11:30 am

E 804	Educational Awards Nomination Committee	M-Young B
318-S	318 Spanish Translation	C-2206
346	CIP Pipe	C-2205

10:00 am - 12:00 pm

365	Service Life	C-4300H
376-TG	RLG Containment Structures-Task Group	C-21014A

10:00 am - 1:00 pm

207	Mass Concrete	C-2215A
216	Fire Resistance	C-2102A

10:00 am - 4:30 pm

355-TG	Anchorage-Task Group	C-4300C

10:30 am - 1:30 pm

350-B	Env Str-Durability	C-2212

11:30 am - 1:00 pm

201-D	Durability—Oversight Committee	C-2208
334	Shells	C-2215C
423/445	Adhoc Grp on Shear in Prestress Conc	C-2205
444	Experimental Analysis	C-2102B
506-E	Shotcreting-Specifications	C-2206
533	Precast Panels	C-2215B
544-A	FRC-Production & Applications	C-2213
552	Cement Grouting	C-4202B

11:30 am - 1:30 pm

439	Steel Reinforcement	C-2207

★Denotes theme session

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Monday, November 7, 2005—continued

11:30 am - 2:00 pm

441	Columns	C-4300E

11:30 am - 2:30 pm

447	Finite Element Analysis	C-4300A

12:00 pm - 1:30 pm

201-B	Durability-Sulfate in Soil	C-2214

12:00 pm - 2:00 pm

C 660	Shotcrete Nozzleman Cert	C-2104A
362-A	Parking Str-Standard	C-4300H

Special Event

12:00 pm - 2:00 pm

	✓ Student Lunch	C-4300D

12:30 pm - 2:00 pm

548-B	Polymers-Sulfur Concrete	C-2209

1:00 pm - 2:30 pm

E 602	Electronic Delivery Oversight Committee	M-Young B

1:30 pm - 3:30 pm

211-G	Proportioning-Shrinkage	C-2212

2:00 pm - 3:00pm

	Convention Moderator Question & Answer	C-2207

2:00 pm - 3:30 pm

IntAC	Information Technology Advisory Committee	M-Kirk B
122	Energy Conservation	C-2205
231	Early-Age	C-4202B
548-C	Polymers-Str Design & Analysis	C-2203

2:00 pm - 5:00 pm

232	Fly Ash & Natural Pozzolans	C-2209
318-L	International Subcommittee	C-4300B
327	RCC Pavements	C-2102A
349-A&B	Nuclear Str-Design & Materials	C-2215C

✓Separate fee required

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Monday, November 7, 2005—continued

2:00 pm - 5:00 pm—continued

351	Equip Foundations	C-2215A
362	Parking Structures	C-2204
364	Rehabilitation	C-2201
365-A	Service Life-Std Model Development	C-2213
543	Piles	C-2208
544-E	FRC-Mechanical Properties	C-2214

Sessions

2:00 pm - 5:00 pm

★Silica Fume in Concrete—A Spice for Many Purposes, Part II	C-4202A
History of Concrete	C-4204B
Ned H. Burns Symposium—Historic Innovations in Prestressed Concrete, Part II	C-4204A
Strengthening of Existing Concrete Structures Using FRP Systems, Part I	C-4203A
Serviceability of FRP Reinforced Concrete Structures	C-4203B

2:00 pm - 6:00 pm

445	Shear & Torsion	C-2202

2:00 pm - 6:30 pm

212	Chemical Admixtures	C-2215B
301	Specifications M2	C-4300E
360	Slabs on Ground	C-4300H

2:30 pm - 6:00 pm

506-F	Shotcreting-Underground	C-2206

3:00 pm - 5:00 pm

211-D	Proportioning-High Strength	C-2207

Special Event

3:00 pm - 5:00 pm

Guest Tea and Open House	M-1856

★Denotes theme session

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Monday, November 7, 2005—continued

3:00 pm - 6:00 pm

318-B	Code-Reinf/Development M1	C-4300G

3:30 pm - 5:00 pm

214	Strength Tests	C-2205
224	Cracking	C-4202B

3:30 pm - 5:30 pm

446	Fracture Mechanics	C-4300A

3:30 pm - 6:30 pm

211-H	Proportioning-Self Consolidating	C-2212

4:00 pm - 5:00 pm

548-TG	Polymers-TG	C-2203

4:30 pm - 6:30 pm

314	Simplified Design—Buildings	C-4300C

5:00 pm - 6:00 pm

236	Material Science	C-2204

Special Event

5:00 pm - 6:00 pm

	Women in ACI Reception	M-Basie A1

5:00 pm - 6:30 pm

Cert-TG	Pervious Concrete Cert-TG	C-2205
123	Research	C-2208
350-J	Env Str-Education	C-2203
435	Deflection	C-2213
440-F	FRP-Repair-Strengthening	C-2209
544-D	FRC-Structural Uses	C-2214
555	Recycled	C-2207

Special Event

5:00 pm - 6:30 pm

	Ned H. Burns Reception	M-Basie BB1

5:00 pm - 7:00 pm

E 703	Concrete Construction Practices	M-Young A

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Monday, November 7, 2005—continued

6:30 pm - 10:00 pm

ITG-4	High-Strength Concrete for Seismic Applications M2	M-Kirk A

Session

7:30 pm - 10:00 pm

	123 Forum—Should the Concrete Materials Specifications be Rewritten?	M-Basie CC1

Tuesday, November 8, 2005

7:00 am - 8:30 am

TTCC	TAC Tolerances Coordination Committee	C-2202

7:00 am - 9:00 am

TTTC	TAC Technology Transfer	C-2203

7:00 am - 12:00 pm

EAC	Educational Activities M2	M-Moten A&B

8:00 am - 10:00 am

230	Soil Cement	C-2212
236-A	Material Science-Workability	C-2209

8:00 am - 11:00 am

522	Pervious Concrete	C-4300E

8:00 am - 11:30 am

515	Protective Systems	C-2210

8:30 am - 10:00 am

C 620	Laboratory Tech Cert	C-4202B
225	Hydraulic Cements	C-2213
318	Building Code M1	C-4300F
325-A	Pavements-Design	C-2208

8:30 am - 10:30 am

E 702-TG	Designing Reinforced Concrete Structures-Task Group	M-Kirk B
506	Shotcreting	C-2205

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Tuesday, November 8, 2005—continued

8:30 am - 11:30 am

CAC	Chapter Activities	M-Kirk A
201	Durability	C-4300B
306	Cold Weather	C-4300A
349-C	Nuclear Str-Anchorage	C-2206
357	Offshore & Marine	C-2215B
548	Polymers	C-2215A

8:30 am - 2:00 pm

117	Tolerances	C-4300C

8:30 am - 6:30 pm

350-F	Env Str-Seismic	C-2201

9:00 am - 12:00 pm

TRRC	TAC Repair & Rehab	C-2211

Sessions

9:00 am - 12:00 pm

	Contractors' Day, Part I	C-4204A
	Impact of Rebar Constructibility on Project Performance	C-4202A
	Strengthening of Existing Concrete Structures using FRP Systems, Part II	C-4203A
	Design and Behavior of Concrete Members Internally Reinforced with FRP	C-4203B

9:30 am - 12:30 pm

332-TG1	Residential-Guide	C-2214

10:00 am - 11:30 am

C 630	Construction Inspector Cert	C-4202B
318-TG1	Code-TG-Min Torsional Reinf	C-2202
325-B	Pavements-Overlays	C-2208
350-H	Env Str-Editorial	C-2209
371	Water Towers	C-2215C
544-F	FRC-Durability	C-2213

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Tuesday, November 8, 2005—continued

10:00 am - 1:00 pm

211-A	Proportioning–Editorial	C-2212
318-TG2	Code-TG-Notation & Editorial	C-2203
318-TG3	Code-TG-Slender Columns	C-2204
318-TG5	Code-TG-Stress Block	C-2207
318-TG6	Code-TG-Piles	C-4300F

10:30 am - 12:30 pm

332-TG2	Residential-Standard	C-2205

11:30 am - 1:00 pm

CRC	Concrete Research Council	M-Kirk A
211-B	Proportioning-Lightweight	C-2206
211-E	Proportioning-Evaluation	C-2208
348	Safety	C-2213

11:30 am - 2:00 pm

550	Precast Structures	C-4300A

11:30 am - 3:30 pm

350-A	Env Str-General & Concrete	C-2210

Special Event

12:00 pm - 2:00 pm

	✓Contractors' Day Lunch	C-4300D

12:30 pm - 2:00 pm

C 640	Craftsman Cert	C-4202B

1:00 pm - 2:00 pm

E 803	Faculty Network Coordinating	M-Kirk B

2:00 pm - 3:00 pm

211-C	Proportioning-No Slump	C-2207

2:00 pm - 3:30 pm

120	History	C-2215C
213	Lightweight	C-2212
503	Adhesives	C-4300F
544-C	FRC-Testing	C-4300E

✓Separate fee required

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Tuesday, November 8, 2005—continued

2:00 pm - 4:00 pm

CC	Convention Committee	M-Williams A&B
372	Prestressed/Wire-Wrapped	C-2215B

2:00 pm - 5:00 pm

CPC	Certification Programs	C-4202B
222	Corrosion	C-4300B
223	Shrinkage-Compensating	C-2209
228	Nondestructive Testing	C-4300A
229	Controlled Low-Strength	C-2211
233	Ground Slag	C-2215A
235	Knowledge-Based Systems	C-2213
332	Residential Concrete	C-4300C
349	Nuclear Structures	C-2214
350-G&K	Env Str-Tightness Testing/Haz Mat	C-2208

Sessions

2:00 pm - 5:00 pm

Contractors' Day, Part II	C-4204A
Open Paper Session	C-4202A
Behavior of FRP Reinforced Concrete Columns	C-4204B
Field Applications of FRP Reinforced Concrete Structures	C-4203A
Full-Scale In-Situ Load Testing—Case Studies	C-4203B

2:00 pm - 6:00 pm

234	Silica Fume	C-2202

2:00 pm - 6:30 pm

318-A	Code-General Concrete Constr	C-2203
318-E	Code-Shear & Torsion	C-2204
318-F	New Mat Products & Ideas	C-2206
318-H	Code-Seismic Provisions	C-2205

3:30 pm - 5:00 pm

116	Terminology & Notation	C-2215C
308-C	Curing-Accelerated	C-2210
363-A	High Strength—State-of-Art Report	C-2212

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Tuesday, November 8, 2005—continued

3:30 pm - 6:00 pm

544	Fiber Reinforced Concrete	C-4300F

3:30 pm - 6:30 pm

325	Pavements	C-4300E
350-L	Env Str-Specification	C-2207

Special Event

5:00 pm - 6:00 pm

	Faculty Network Reception	M-Harvest

5:00 pm - 6:30 pm

E 702	Designing Concrete Structures	M-Kirk B
308-D	Curing-HPC	C-2210
440-IIFC	Int'l Institute for FRP in Construction	C-2208

Special Event

6:30 pm - 8:00 pm

	Concrete Mixer	C-2103

Wednesday, November 9, 2005

7:00 am - 10:00 am

ACI/ASCE	ACI/ASCE Coordination	C-2212
TSC	TAC Specifications	C-2213

8:30 am - 10:00 am

523-A	Cellular-Autoclaved Aerated	C-2208

8:30 am - 11:30 am

211	Proportioning	C-2205
303	Architectural CIP	C-2203
308-B	Curing-Specifications	C-2204
330	Parking Lots & Site Paving	C-2206
363	High-Strength	C-4300B
560	Design & Constr-ICFs	C-2207

Special Event

8:30 am - 11:30 am

	Chapter Operations Forum	C-4300C

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Wednesday, November 9, 2005—continued

8:30 am - 1:00 pm

318-B	Code-Reinf/Development M2	C-2201
318-C	Code-Serviceability/Safety	C-2202
318-D	Code-Flexure & Axial Loads	C-2209
318-G	Code-Prestressed Precast	C-2210

8:30 am - 4:30 pm

359	Nuclear Containment Str	C-2211

8:30 am - 6:30 pm

350	Environmental Structures	C-4300A

9:00 am - 12:00 pm

ConRef	Concrete Res & Educ	M-Young A

Sessions

9:00 am - 12:00 pm

International Session: Textile-Reinforced Concrete (TRC)—The German Experience	C-4204A
Effects of Extreme Events on FRP Reinforced Concrete Structures	C-4203A
Durability of FRP for Reinforced Concrete Structures	C-4203B
★Implementation of High-Performance Concrete in Bridge Design	C-4204B
Innovative Practical Applications and Automation Systems, Part II	C-4202A

10:00 am - 11:30 am

TG-Cert	Task Group on Technologist Certification	C-4202B

10:00 am - 12:00 pm

IC-SC	Intl Conference Steering Committee	M-Young B

10:00 am - 1:00 pm

523	Cellular Concrete	C-2208

11:30 am - 1:00 pm

308-A	Curing-Guide	C-2204

★Denotes theme session

Program at a Glance

All schedule and location changes will be posted daily outside Room C-4100.

C=Convention Center M=Marriott

Wednesday, November 9, 2005—continued

Special Event

12:00 pm - 2:00 pm

	✓ International Luncheon	C-2215C

12:30 pm - 2:30 pm

440	Fiber Reinforced Polymers	C-4300B

2:00 pm - 5:00 pm

308	Curing	C-4300C

Sessions

2:00 pm - 5:00 pm

	Advances in Concrete Using Slag Cement	C-4202A
	International Session: Textile Reinforced Concrete (TRC)—The International Experience	C-4204A
	Self-Consolidating Concrete Applications and Reviewing the Emerging Technologies	C-4203A
	Advances in Offshore and Marine Concrete	C-4203B
	Design and Construction of Hybrid Structures	C-4204B

2:00 pm - 6:30 pm

318	Building Code M2	C-4300D

Thursday, November 10, 2005

10:00 am - 5:00 pm

BOD	Board of Direction	M-Moten A&B

✓Separate fee required

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

ACI 318/ ASCE7	ACI 318/ASCE7 Coordination meeting	Mon	8:30 am-10:30 am	C-2212
ACI/AISC	ACI/AISC Coordination	Sun	1:00 pm-5:00 pm	C-4300C
ACI/ASCE	ACI/ASCE Coordination	Wed	7:00 am-10:00 am	C-2212
AC-SD	Board Advisory Committee on Sustainable Development	Sun	1:00 pm-3:00 pm	M-Moten A&B
BOD	Board of Direction	Thurs	10:00 am-5:00 pm	M-Moten A&B
C 610	Field Technician Cert	Mon	8:30 am-11:30 am	C-2102B
C 620	Laboratory Tech Cert	Tues	8:30 am-10:00 am	C-4202B
C 630	Construction Inspector Cert	Tues	10:00 am-11:30 am	C-4202B
C 630-T	Transportation Inspector Cert	Sun	11:30 am-1:00 pm	C-2202
C 640	Craftsman Cert	Tues	12:30 pm-2:00 pm	C-4202B
C 650	Tilt-Up Cert	Mon	8:30 am-10:00 am	C-2102A
C 660	Shotcrete Nozzleman Cert	Mon	12:00 pm-2:00 pm	C-2104A
CAC	Chapter Activities	Tues	8:30 am-11:30 am	M-Kirk A
CC	Convention Committee	Tues	2:00 pm-4:00 pm	M-Williams A&B
Cert-TG	Pervious Concrete Cert-TG	Mon	5:00 pm-6:30 pm	C-2205
CLC	Construction Liaison	Sun	8:30 am-11:30 am	M-Young A
ConRef	Concrete Res & Educ	Wed	9:00 am-12:00 pm	M-Young A
CPC	Certification Programs	Tues	2:00 pm-5:00 pm	C-4202B
CRC	Concrete Research Council	Tues	11:30 am-1:00 pm	M-Kirk A
E 601	Seminar Oversight Committee	Sun	3:00 pm-5:00 pm	M-Moten A&B
E 602	Electronic Delivery Oversight Committee	Mon	1:00 pm-2:30 pm	M-Young B
E 701	Materials for Concrete Construction	Sun	3:30 pm-5:00 pm	M-Kirk A
E 702	Designing Concrete Structures	Tues	5:00 pm-6:30 pm	M-Kirk B
E 702-TG	Designing Reinforced Concrete Structures-Task Group	Tues	8:30 am-10:30 am	M-Kirk B
E 703	Concrete Construction Practices	Mon	5:00 pm-7:00 pm	M-Young A
E 706	Repair Application Procedures	Sun	11:30 am-1:00 pm	M-Kirk A
E 801	Student Activities	Sun	8:00 am-10:00 am	M-Kirk B
E 802	Teaching Methods and Educational Materials	Mon	8:30 am-10:00 am	M-Young B
E 803	Faculty Network Coordinating	Tues	1:00 pm-2:00 pm	M-Kirk B

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

E 804	Educational Awards Nomination Committee	Mon	10:00 am-11:30 am	M-Young B
EAC	Educational Activities M1	Sat	8:00 am-5:00 pm	M-McShann A
EAC	Educational Activities M2	Tues	7:00 am-12:00 pm	M-Moten A&B
HTC	Hot Topic	Sun	11:30 am-1:00 pm	M-Young B
IC	International Committee	Sun	3:30 pm-5:00 pm	M-Williams A&B
IC-Cert	International-Certification	Sun	2:00 pm-3:30 pm	M-Kirk B
IC-Conf	International-Conferences	Sun	9:00 am-11:00 am	M-Kirk A
IC-Mem	International-Membership	Sun	1:00 pm-3:00 pm	M-Kirk A
IC-Part	International Partnerships Committee	Sun	10:00 am-11:30 am	M-Young B
IC-Pub		Sun	8:30 am-10:00 am	M-Young B
IC-SC	Intl Conference Steering Committee	Wed	10:00 am-12:00 pm	M-Young B
IntAC	Information Technology Advisory Committee	Mon	2:00 pm-3:30 pm	M-Kirk B
ITG-4	High-Strength Concrete for Seismic Applications M1	Sun	6:30 pm-10:00 pm	M-Kirk A
ITG-4	High-Strength Concrete for Seismic Applications M2	Mon	6:30 pm-10:00 pm	M-Kirk A
ITG-5	Precast Shear Walls for High Seismic Applications	Sun	10:00 am-4:00 pm	C-2211
MEMC	Membership	Sun	8:30 am-11:30 am	M-Williams A&B
MKTC	Marketing	Mon	8:30 am-11:30 am	M-Williams A&B
PUBC	Publications	Mon	8:00 am-10:00 am	M-Moten A&B
RCC	Responsibility	Sun	2:00 pm-5:00 pm	M-Young B
SCO	Scholarship Council (ConRef)	Sun	10:00 am-1:00 pm	M-Kirk B
TAC	Technical Activities-M1	Fri	6:00 pm-9:00 pm	C-4203B
TAC	Technical Activities-M2	Sat	7:00 am-6:00 pm	C-4300A
TAC	Technical Activities-M3	Sun	7:00 am-1:00 pm	C-4300C
TAC-RG1	TAC Review Group 1-M1	Sat	8:00 am-9:00 am	C-4300A
TAC-RG1	TAC Review Group 1-M2	Sun	8:00 am-9:00 am	C-4300C
TAC-RG2	TAC Review Group 2-M1	Sat	8:00 am-9:00 am	C-2205
TAC-RG2	TAC Review Group 2-M2	Sun	8:00 am-9:00 am	C-2209
TAC-RG3	TAC Review Group 3-M1	Sat	8:00 am-9:00 am	C-2204
TAC-RG3	TAC Review Group 3-M2	Sun	8:00 am-9:00 am	C-2210

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

TAC-TG on ATA	TAC Task Group on ATA Review	Sun	7:00 am-9:00 am	C-2207
TG-Cert	Task Group on Technologist Certification	Wed	10:00 am-11:30 am	C-4202B
TRRC	TAC Repair & Rehab	Tues	9:00 am-12:00 pm	C-2211
TSC	TAC Specifications	Wed	7:00 am-10:00 am	C-2213
TTCC	TAC Tolerances Coordination Committee	Tues	7:00 am-8:30 am	C-2202
TTTC	TAC Technology Transfer	Tues	7:00 am-9:00 am	C-2203
116	Terminology & Notation	Tues	3:30 pm-5:00 pm	C-2215C
117	Tolerances	Tues	8:30 am-2:00 pm	C-4300C
118	Computers	Mon	8:30 am-10:00 am	C-2205
120	History	Tues	2:00 pm-3:30 pm	C-2215C
121	Quality Assurance	Sun	2:00 pm-5:00 pm	C-2201
122	Energy Conservation	Mon	2:00 pm-3:30 pm	C-2205
123	Research	Mon	5:00 pm-6:30 pm	C-2208
124	Aesthetics	Mon	8:30 am-10:00 am	C-4300C
201	Durability	Tues	8:30 am-11:30 am	C-4300B
201-A	Durability-Sulfate Attack M 1	Sun	4:00 pm-5:00 pm	C-2211
201-A	Durability-Sulfate Attack M 2	Mon	8:30 am-10:00 am	C-4300H
201-B	Durability-Sulfate in Soil	Mon	12:00 pm-1:30 pm	C-2214
201-C	Durability-Condition Survey	Sun	8:30 am-10:30 am	C-2206
201-D	Durability-Oversight Committee	Mon	11:30 am-1:00 pm	C-2208
207	Mass Concrete	Mon	10:00 am-1:00 pm	C-2215A
209	Creep & Shrinkage	Mon	8:30 am-11:30 am	C-4202B
211	Proportioning	Wed	8:30 am-11:30 am	C-2205
211-A	Proportioning-Editorial	Tues	10:00 am-1:00 pm	C-2212
211-B	Proportioning-Lightweight	Tues	11:30 am-1:00 pm	C-2206
211-C	Proportioning-No Slump	Tues	2:00 pm-3:00 pm	C-2207
211-D	Proportioning-High Strength	Mon	3:00 pm-5:00 pm	C-2207
211-E	Proportioning-Evaluation	Tues	11:30 am-1:00 pm	C-2208
211-G	Proportioning-Shrinkage	Mon	1:30 pm-3:30 pm	C-2212
211-H	Proportioning-Self Consolidating	Mon	3:30 pm-6:30 pm	C-2212
212	Chemical Admixtures	Mon	2:00 pm-6:30 pm	C-2215B
213	Lightweight	Tues	2:00 pm-3:30 pm	C-2212
214	Strength Tests	Mon	3:30 pm-5:00 pm	C-2205
215	Fatigue	Sun	2:00 pm-3:30 pm	C-4300A

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

216	Fire Resistance	Mon	10:00 am-1:00 pm	C-2102A
221	Aggregates	Sun	11:30 am-1:00 pm	C-2201
222	Corrosion	Tues	2:00 pm-5:00 pm	C-4300B
223	Shrinkage-Compensating	Tues	2:00 pm-5:00 pm	C-2209
224	Cracking	Mon	3:30 pm-5:00 pm	C-4202B
225	Hydraulic Cements	Tues	8:30 am-10:00 am	C-2213
228	Nondestructive Testing	Tues	2:00 pm-5:00 pm	C-4300A
229	Controlled Low-Strength	Tues	2:00 pm-5:00 pm	C-2211
230	Soil Cement	Tues	8:00 am-10:00 am	C-2212
231	Early-Age	Mon	2:00 pm-3:30 pm	C-4202B
232	Fly Ash & Natural Pozzolans	Mon	2:00 pm-5:00 pm	C-2209
232-A	Fly Ash-Use of Nat Pozzolans	Sun	3:30 pm-5:00 pm	C-4300D
233	Ground Slag	Tues	2:00 pm-5:00 pm	C-2215A
234	Silica Fume	Tues	2:00 pm-6:00 pm	C-2202
235	Knowledge-Based Systems	Tues	2:00 pm-5:00 pm	C-2213
236	Material Science	Mon	5:00 pm-6:00 pm	C-2204
236-A	Material Science-Workability	Tues	8:00 am-10:00 am	C-2209
236-B	Material Science-Permeation Methods	Sun	3:30 pm-5:00 pm	C-4300A
236-C	Material Science-Virtual Concrete	Sun	3:00 pm-4:30 pm	C-2210
237	Self-Consolidating Concrete	Mon	8:30 am-11:30 am	C-2215B
301	Specifications M1	Sun	8:30 am-10:00 am	C-2215A
301	Specifications M2	Mon	2:00 pm-6:30 pm	C-4300E
301-A	Spec-General Requirements	Sun	1:00 pm-5:00 pm	C-2214
301-B	Spec-Formwork & Rein	Mon	8:30 am-1:00 pm	C-2202
301-C	Spec-Mixtures, Place, Constr	Sun	1:00 pm-5:00 pm	C-2215B
301-D	Spec-Arctl, LWC, Mass, Shrinkage	Mon	8:30 am-1:00 pm	C-2201
301-E	Spec-Prestressed	Sun	1:00 pm-5:00 pm	C-2215A
301-F	Spec-Industrial Floors	Mon	8:30 am-1:00 pm	C-2203
301-G	Spec-Precast Concrete & Tilt-Up Constr	Sun	1:00 pm-5:00 pm	C-2215C
301-H	Spec-Architectural Concrete	Mon	8:30 am-1:00 pm	C-2204
302	Floor Construction	Mon	8:30 am-1:00 pm	C-4300F
302-TG	Floor Construction Task Group	Sun	11:30 am-2:00 pm	C-2204
303	Architectural CIP	Wed	8:30 am-11:30 am	C-2203
304	Measuring/Mix/Trans/Placing	Mon	8:30 am-10:00 am	C-2215A

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

305	Hot Weather	Sun	2:00 pm-5:00 pm	C-2101
306	Cold Weather	Tues	8:30 am-11:30 am	C-4300A
307	Chimneys	Mon	8:30 am-2:00 pm	C-4300G
308	Curing	Wed	2:00 pm-5:00 pm	C-4300C
308-A	Curing-Guide	Wed	11:30 am-1:00 pm	C-2204
308-B	Curing-Specifications	Wed	8:30 am-11:30 am	C-2204
308-C	Curing-Accelerated	Tues	3:30 pm-5:00 pm	C-2210
308-D	Curing-HPC	Tues	5:00 pm-6:30 pm	C-2210
309	Consolidation	Sun	3:30 pm-5:00 pm	C-2206
311	Inspection	Mon	8:30 am-11:30 am	C-2215C
314	Simplified Design—Buildings	Mon	4:30 pm-6:30 pm	C-4300C
315	Detailing	Sun	2:00 pm-5:00 pm	C-2204
315-B	Detailing-Constructibility	Sun	8:30 am-11:30 am	C-2204
318	Building Code M1	Tues	8:30 am-10:00 am	C-4300F
318	Building Code M2	Wed	2:00 pm-6:30 pm	C-4300D
318-A	Code-General Concrete Constr	Tues	2:00 pm-6:30 pm	C-2203
318-B	Code-Reinf/Development M1	Mon	3:00 pm-6:00 pm	C-4300G
318-B	Code-Reinf/Development M2	Wed	8:30 am-1:00 pm	C-2201
318-C	Code-Serviceability/Safety	Wed	8:30 am-1:00 pm	C-2202
318-D	Code-Flexure & Axial Loads	Wed	8:30 am-1:00 pm	C-2209
318-E	Code-Shear & Torsion	Tues	2:00 pm-6:30 pm	C-2204
318-F	New Mat Products & Ideas	Tues	2:00 pm-6:30 pm	C-2206
318-G	Code-Prestressed Precast	Wed	8:30 am-1:00 pm	C-2210
318-H	Code-Seismic Provisions	Tues	2:00 pm-6:30 pm	C-2205
318-L	International Subcommittee	Mon	2:00 pm-5:00 pm	C-4300B
318-S	318 Spanish Translation	Mon	10:00 am-11:30 am	C-2206
318-TG1	Code-TG-Min Torsional Reinf	Tues	10:00 am-11:30 am	C-2202
318-TG2	Code-TG-Notation & Editorial	Tues	10:00 am-1:00 pm	C-2203
318-TG3	Code-TG-Slender Columns	Tues	10:00 am-1:00 pm	C-2204
318-TG5	Code-TG-Stress Block	Tues	10:00 am-1:00 pm	C-2207
318-TG6	Code-TG-Piles	Tues	10:00 am-1:00 pm	C-4300F
325	Pavements	Tues	3:30 pm-6:30 pm	C-4300E
325-A	Pavements-Design	Tues	8:30 am-10:00 am	C-2208
325-B	Pavements-Overlays	Tues	10:00 am-11:30 am	C-2208
327	RCC Pavements	Mon	2:00 pm-5:00 pm	C-2102A

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

330	Parking Lots & Site Paving	Wed	8:30 am-11:30 am	C-2206
332	Residential Concrete	Tues	2:00 pm-5:00 pm	C-4300C
332-TG1	Residential-Guide	Tues	9:30 am-12:30 pm	C-2214
332-TG2	Residential-Standard	Tues	10:30 am-12:30 pm	C-2205
334	Shells	Mon	11:30 am-1:00 pm	C-2215C
335	Composite-Hybrid	Sun	11:00 am-1:30 pm	C-2206
336	Footings	Sun	2:00 pm-5:00 pm	C-2102B
341	Earthquake-Resistant Bridges	Sun	3:00 pm-5:00 pm	C-2207
341-A	Equake Res Brdgs-Columns	Sun	8:30 am-10:00 am	C-2213
341-B	Equake Res Brdgs-Pier Walls	Sun	11:30 am-1:00 pm	C-2213
341-C	Equake Res Brdgs-Retrofit	Sun	10:00 am-11:30 am	C-2213
341-D	Equake Res Brdgs-Perform-ance Based Seismic Design	Sun	1:00 pm-2:30 pm	C-2213
342	Bridge Evaluation	Sun	10:00 am-11:30 am	C-2207
343	Bridge Design	Sun	2:00 pm-5:00 pm	C-2205
343-A	Bridge Design—Concrete Guideways	Sun	12:30 pm-2:00 pm	C-2205
345	Bridge Construction	Sun	11:30 am-1:00 pm	C-2215B
346	CIP Pipe	Mon	10:00 am-11:30 am	C-2205
347	Formwork	Sun	8:30 am-1:00 pm	C-2215C
347-A	Formwork-Specification	Sat	7:30 pm-10:00 pm	M-McShann A
348	Safety	Tues	11:30 am-1:00 pm	C-2213
349	Nuclear Structures	Tues	2:00 pm-5:00 pm	C-2214
349-A&B	Nuclear Str-Design & Materials	Mon	2:00 pm-5:00 pm	C-2215C
349-C	Nuclear Str-Anchorage	Tues	8:30 am-11:30 am	C-2206
350	Environmental Structures	Wed	8:30 am-6:30 pm	C-4300A
350-A	Env Str-General & Concrete	Tues	11:30 am-3:30 pm	C-2210
350-B	Env Str-Durability	Mon	10:30 am-1:30 pm	C-2212
350-C	Env Str-Reinf & Devel	Sun	10:00 am-11:30 am	C-2215A
350-D	Env Str-Structural	Mon	8:30 am-6:30 pm	C-2210
350-E	Env Str-Precast/Prestressed	Mon	8:30 am-6:30 pm	C-2211
350-F	Env Str-Seismic	Tues	8:30 am-6:30 pm	C-2201
350-G&K	Env Str-Tightness Testing/ Haz Mat	Tues	2:00 pm-5:00 pm	C-2208
350-H	Env Str-Editorial	Tues	10:00 am-11:30 am	C-2209
350-J	Env Str-Education	Mon	5:00 pm-6:30 pm	C-2203

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

350-L	Env Str-Specification	Tues	3:30 pm-6:30 pm	C-2207
350-SC	Env Str-Steering Comm	Sun	11:30 am-1:00 pm	C-2215A
351	Equip Foundations	Mon	2:00 pm-5:00 pm	C-2215A
351-A	Equip Fdns-Static Fdns	Mon	8:30 am-11:30 am	C-2213
352	Joints	Sun	2:00 pm-5:00 pm	C-2102A
355	Anchorage	Sun	8:30 am-5:00 pm	C-2208
355-TG	Anchorage-Task Group	Mon	10:00 am-4:30 pm	C-4300C
357	Offshore & Marine	Tues	8:30 am-11:30 am	C-2215B
359	Nuclear Containment Str	Wed	8:30 am-4:30 pm	C-2211
360	Slabs on Ground	Mon	2:00 pm-6:30 pm	C-4300H
362	Parking Structures	Mon	2:00 pm-5:00 pm	C-2204
362-A	Parking Str-Standard	Mon	12:00 pm-2:00 pm	C-4300H
362-B	Parking Str-Editorial	Mon	9:00 am-12:00 pm	C-4300B
363	High-Strength	Wed	8:30 am-11:30 am	C-4300B
363-A	High Strength—State-of-Art-Report	Tues	3:30 pm-5:00 pm	C-2212
364	Rehabilitation	Mon	2:00 pm-5:00 pm	C-2201
364-A	Rehabilitation-Evaluation	Sun	1:00 pm-5:00 pm	C-2203
365	Service Life	Mon	10:00 am-12:00 pm	C-4300H
365-A	Service Life-Std Model Development	Mon	2:00 pm-5:00 pm	C-2213
369	Seismic Rehab	Sun	8:30 am-11:30 am	C-2201
370	Dynamic & Vibratory Effects M1	Sun	2:30 pm-5:00 pm	C-2202
370	Dynamic & Vibratory Effects M2	Sun	7:00 pm-9:00 pm	C-2202
371	Water Towers	Tues	10:00 am-11:30 am	C-2215C
372	Prestressed/Wire-Wrapped	Tues	2:00 pm-4:00 pm	C-2215B
373	Prestressed/Tendons	Sun	8:30 am-10:00 am	C-2203
374	Seismic Design	Mon	8:30 am-12:30 pm	C-2209
375	Design for Wind Loads	Sun	2:00 pm-5:00 pm	C-4202B
376	RLG Containment Structures	Sun	8:30 am-2:00 pm	C-4202B
376-TG	RLG Containment Structures-Task Group	Mon	10:00 am-12:00 pm	C-2104A
408	Bond & Development	Sun	8:30 am-11:30 am	C-2215B
421	Reinf Slabs	Sun	10:00 am-1:00 pm	C-2203
423	Prestressed	Sun	10:00 am-2:00 pm	C-2209
423/445	Adhoc Grp on Shear in Prestress Conc	Mon	11:30 am-1:00 pm	C-2205

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

435	Deflection	Mon	5:00 pm-6:30 pm	C-2213
437	Strength Evaluation	Mon	8:30 am-11:30 am	C-2207
439	Steel Reinforcement	Mon	11:30 am-1:30 pm	C-2207
439-A	Steel Reinf-Wire	Sun	2:00 pm-5:00 pm	C-2212
439-B	Steel Reinf-Mechanical Splices	Sun	10:00 am-11:30 am	C-2212
439-C	Steel Reinf-Mech Bar Develop	Sun	11:30 am-1:00 pm	C-2212
440	Fiber Reinforced Polymer	Wed	12:30 pm-2:30 pm	C-4300B
440-C	FRP-State of Art	Sun	8:00 am-10:00 am	C-4300A
440-F	FRP-Repair-Strengthening	Mon	5:00 pm-6:30 pm	C-2209
440-H	FRP-Reinforced Concrete	Sun	10:00 am-12:00 pm	C-4300A
440-IIFC	FRP-Int'l Institute for FRP in Construction	Tues	5:00 pm-6:30 pm	C-2208
440-L	FRP-Durability	Sun	12:00 pm-2:00 pm	C-4300A
441	Columns	Mon	11:30 am-2:00 pm	C-4300E
444	Experimental Analysis	Mon	11:30 am-1:00 pm	C-2102B
445	Shear & Torsion	Mon	2:00 pm-6:00 pm	C-2202
445-A	Shear & Torsn-Strut & Tie	Sun	10:00 am-1:00 pm	C-2214
445-B	Shear & Torsn-Seismic Shear	Sun	11:30 am-2:30 pm	C-2207
445-C	Shear & Torsn-Punching Shear	Sun	1:00 pm-3:00 pm	C-2210
445-E	Shear & Torsn- SOA Torsion	Sun	2:00 pm-5:00 pm	C-2209
446	Fracture Mechanics	Mon	3:30 pm-5:30 pm	C-4300A
447	Finite Element Analysis	Mon	11:30 am-2:30 pm	C-4300A
503	Adhesives	Tues	2:00 pm-3:30 pm	C-4300F
506	Shotcreting	Tues	8:30 am-10:30 am	C-2205
506-A	Shotcreting-Evaluation	Mon	8:30 am-10:00 am	C-2206
506-B	Shotcreting-Fiber-Reinforced	Sun	1:30 pm-3:30 pm	C-2206
506-D	Shotcreting-Swimming Pools	Sun	3:00 pm-4:30 pm	C-2213
506-E	Shotcreting-Specifications	Mon	11:30 am-1:00 pm	C-2206
506-F	Shotcreting-Underground	Mon	2:30 pm-6:00 pm	C-2206
506-G	Shotcreting-Nozzleman Training	Sun	10:00 am-12:00 pm	C-2210
515	Protective Systems	Tues	8:00 am-11:30 am	C-2210
522	Pervious Concrete	Tues	8:00 am-11:00 am	C-4300E
523	Cellular Concrete	Wed	10:00 am-1:00 pm	C-2208
523-A	Cellular-Autoclaved Aerated	Wed	8:30 am-10:00 am	C-2208

Numerical Committee Meeting Listing

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

C=Convention Center M=Marriott

524	Plastering	Mon	8:30 am-11:30 am	C-2208
533	Precast Panels	Mon	11:30 am-1:00 pm	C-2215B
543	Piles	Mon	2:00 pm-5:00 pm	C-2208
544	Fiber Reinforced Concrete	Tues	3:30 pm-6:00 pm	C-4300F
544-A	FRC-Production & Applications	Mon	11:30 am-1:00 pm	C-2213
544-B	FRC-Education	Mon	8:30 am-10:00 am	C-2214
544-C	FRC-Testing	Tues	2:00 pm-3:30 pm	C-4300E
544-D	FRC-Structural Uses	Mon	5:00 pm-6:30 pm	C-2214
544-E	FRC-Mechanical Properties	Mon	2:00 pm-5:00 pm	C-2214
544-F	FRC-Durability	Tues	10:00 am-11:30 am	C-2213
546	Repair	Mon	8:30 am-11:30 am	C-4300A
546-A	Repair-Underwater	Sun	10:00 am-11:30 am	C-2202
546-B	Repair-Material Selection Guide	Sun	8:30 am-10:00 am	C-2202
548	Polymers	Tues	8:30 am-11:30 am	C-2215A
548-A	Polymers-Overlays	Mon	8:30 am-11:30 am	C-4300E
548-B	Polymers-Sulfur Concrete	Mon	12:30 pm-2:00 pm	C-2209
548-C	Polymers-Str Design & Analysis	Mon	2:00 pm-3:30 pm	C-2203
548-TG	Polymers-TG	Mon	4:00 pm-5:00 pm	C-2203
549	Thin Reinforced	Sun	12:00 pm-3:30 pm	C-4300D
549-A	Thin Reinforced-Premix GFRC	Sun	10:00 am-12:00 pm	C-4300D
550	Precast Structures	Tues	11:30 am-2:00 pm	C-4300A
551	Tilt-Up	Sun	8:30 am-12:30 pm	C-2205
552	Cement Grouting	Mon	11:30 am-1:00 pm	C-4202B
555	Recycled	Mon	5:00 pm-6:30 pm	C-2207
560	Design & Constr-ICFs	Wed	8:30 am-11:30 am	C-2207

Notes

Sunday, November 6, 2005

8:00 am – 9:00 am

First-Time Attendee Orientation **M-Lee B**

Sponsored by the Convention Committee

First-time convention attendees are invited to join Rita Oglesby, past Chair of the ACI Convention Committee, to get acquainted with committee representatives and learn what an ACI convention has to offer. A continental breakfast will be served.

Sunday, November 6, 2005
9:00 am – 12:00 pm

Innovations in Mass Concrete **C-4203A**

Sponsored by Committee 207

Session Co-Moderators: Randall P. Bass
Senior Associate
Schnabel Engineering
Alpharetta, GA

Wayne S. Adaska
Director of Public Works
Portland Cement Association
Skokie, IL

Introduction **9:00 am**
Randall P. Bass, Senior Associate, Schnabel Engineering, Alpharetta, GA

Underwater Repairs of Spillway Structures **9:05 am**
Stephen B. Tatro, Civil Engineer, U.S. Army Corps of Engineers, Walla Walla, WA

Innovated Use of Roller-Compacted Concrete for Lock Walls **9:40 am**
David E. Kiefer, Civil Engineer, U.S. Army Corps of Engineers, Louisville, KY

Dam and Lock Replacement with Float-In or Lift-In Construction **10:15 am**
Samuel X. Yao, Project Manager, Ben C. Gerwick Inc., San Francisco, CA

Alkali-Silica Reaction—Is it a Major Problem? **10:50 am**
Ernie K. Schrader, Consultant, Schrader Consulting, Walla Walla, WA

Saluda Dam—Roller-Compacted Concrete and Mass Concrete Put to Work **11:30 am**
Carl M. Rizzo, Principal, Paul C. Rizzo Associates, Inc., Monroeville, PA; and **Luis Ruiz Gaekel**, Paul C. Rizzo Associates, Inc.

Sunday, November 6, 2005
9:00 am – 12:00 pm

Introducing Concrete Aggregates **C-4204A**

Sponsored by Committee E 701

Session Moderator: Darrell F. Elliot
Technical Service Manager
Buzzi Unicem USA
New Orleans, LA

Introduction **9:00 am**
Darrell F. Elliot, Technical Service Manager, Buzzi Unicem USA, New Orleans, LA

Introduction and Classification of Aggregates **9:05 am**
Paul J. Tikalsky, Deputy Director, Pennsylvania Transportation Institute, University Park, PA

Aggregate Sampling and Gradations **9:40 am**
Frank A. Kozeliski, President, Gallup Sand & Gravel Co., Gallup, NM

Surface Moisture on Aggregates **10:10 am**
Darrell F. Elliot, Technical Service Manager, Buzzi Unicem USA, New Orleans, LA

Aggregate Density, Texture, and Soundness **10:45 am**
David M. Suchorski, Technical Services Manager, Ash Grove Cement Company, Overland Park, KS

Chemical Stability of Aggregates **11:20 am**
Clifford N. MacDonald, Director of Engineering, Forta Corporation, Inver Grove Heights, MN

Blast-Furnace Slag and Lightweight Aggregates **11:40 am**
Jere H. Rose, Director of Technical Services Southeast Region, Lafarge North America, Alpharetta, GA

Sunday, November 6, 2005
9:00 am – 12:00 pm

Recommendations for Load Test Magnitude and Acceptance Criteria for Strength Evaluation of Existing Concrete Buildings **C-4203B**

Sponsored by Committee 437

Session Co-Moderators:

Thomas E. Nehil
Principal
Nehil-Sivak, Consulting Structural Engineers
Kalamazoo, MI

Antonio Nanni
Vernon and Maralee Jones Professor of Civil Engineering
Department of Civil Engineering
University of Missouri-Rolla
Rolla, MO

Introduction **9:00 am**
Thomas E. Nehil, Principal, Nehil-Sivak, Consulting Structural Engineers, Kalamazoo, MI

History of the Load Test, Load Factors, and Acceptance Criteria **9:15 am**
Thomas L. Rewerts, Structural Engineer, Thomas Rewerts & Co., Overland Park, KS

Selection of Load Factors to Determine Test Load Magnitude **9:45 am**
Joseph A. Amon, Vice President, Ardaman and Associates, Inc., Tampa, FL

Selection of Load Test Protocol and Acceptance Criteria **10:15 am**
Antonio Nanni, Vernon and Maralee Jones Professor of Civil Engineering, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO

Conclusions and Recommendations **10:45 am**
Thomas E. Nehil, Principal, Nehil-Sivak, Consulting Structural Engineers, Kalamazoo, MI

Discussion—Speakers, Committee 437, 318-C Members, and Audience **11:00 am**

Sunday, November 6, 2005
9:00 am – 12:00 pm

★ The Architect and Concrete—From Aesthetic Vision to Concrete Reality **C-4204B**

Sponsored by Committee 124 and the American Institute of Architects

Session Moderator: Michael J. Paul
Senior Vice President
Thornton-Tomasetti Group
Philadelphia, PA

Introduction **9:00 am**
Michael J. Paul, Senior Vice President, Thornton-Tomasetti Group, Philadelphia, PA

Innovation of Architectural Precast in the New Millennium **9:05 am**
Brian D. Miller, Engineer, National Precast Concrete Association, Indianapolis, IN

White Concrete Heightens Architectural Expression **9:30 am**
Jamie Farny, Program Manager, Masonry & Special Products, Portland Cement Association, Skokie, IL

Self-Cleaning Concrete–Photo-Catalysts in the Mix **10:00 am**
Michael Chusid, RA, FCSI, Principal, Chusid Associates, Tarzana, CA

Decorative Concrete Walls–What the Architect/ Engineer Needs to Know **10:30 am**
Daniel P. Dorfmueller, President, D.P. Dorfmueller Co., Inc., Lebanon, OH

Specifying Beautiful Concrete Using the New CSI Master Format **11:00 am**
Michael Chusid, RA, FCSI, Principal, Chusid Associates, Tarzana, CA

The Emergence of Architectural Concrete **11:25 am**
James M. Shilstone, Sr., Chairman, The Shilstone Companies, Inc., Dallas, TX

★ Denotes theme session

Sunday, November 6, 2005
9:00 am – 12:00 pm

Punching Shear in Reinforced Concrete Slabs, Part I **C-4202A**

Sponsored by Committee 445

Session Co-Moderators: Maria Anna Polak
Professor
Department of Civil Engineering
University of Waterloo
Waterloo, Ontario, Canada

Scott D.B. Alexander
Senior Structural Engineer
UMA Engineering, Ltd.
Edmonton, Alberta, Canada

Introduction **9:00 am**
Maria Anna Polak, Professor, Department of Civil Engineering, University of Waterloo, Waterloo, Ontario, Canada

ACI 318-05, CSA A23.3-04, Eurocode 2 (2003), DIN 1045-1 (2001), BS 8110-97 and CEB-FIP MC 90 Provisions for Punching Shear of Reinforced Concrete Flat Slabs **9:05 am**
N. John Gardner, Professor, Department of Civil Engineering, University of Ottawa, Ottawa, Ontario, Canada

ACI 318 Moment Transfer Strength and Stiffness Considerations **9:30 am**
Neil M. Hawkins, Professor Emeritus, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL

Effects of Size, Geometry, and Material Properties on Punching Shear Resistance **9:55 am**
Denis Mitchell, Professor, Department of Civil Engineering, McGill University, Montreal, Quebec, Canada, and **Walter Dilger**, University of Calgary

Effects of Flexural Reinforcement on Punching Shear Resistance **10:20 am**
Gerd Birkle, Structural Engineer, Stantec Consulting, Calgary, Alberta, Canada; **Walter Dilger**, University of Calgary; and **Denis Mitchell**, McGill University

Sunday, November 6, 2005
9:00 am – 12:00 pm

Punching Shear in Reinforced Concrete Slabs, Part I—continued **C-4202A**

Shear Reinforcement for Concrete Flat Slabs **10:45 am**
Maria Anna Polak, Professor, Department of Civil Engineering, University of Waterloo, Waterloo, Ontario, Canada; **Ehab El-Salakawy**, University of Sherbrook; and **Neil L. Hammill**, Decon, USA

A Design Perspective on Punching Shear **11:10 am**
Scott D.B. Alexander, Senior Structural Engineer, UMA Engineering, Ltd., Edmonton, Alberta, Canada; and **Neil M. Hawkins**, University of Illinois at Urbana-Champaign

Reinforced Concrete Slabs Subjected to Localized Impact **11:35 am**
Theodore Krauthammer, Professor, Protective Technology Center, Pennsylvania State University, State College, PA

Sunday, November 6, 2005
1:00 pm – 5:00 pm

Student Concrete Cube Competition **C-4300B**

Sponsored by Committee E 801 and the ACI Missouri and Kansas Chapters

Program Coordinator: John J. Myers
Associate Professor
Department of Civil, Architectural,
and Environmental Engineering
University of Missouri-Rolla
Rolla, MO

Introduction **1:00 pm**
John J. Myers, Associate Professor, Department of Civil, Architectural, and Environmental 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 35 MPa and a target mass of 205 grams per cube (moderately lightweight concrete).

Lightweight Concrete Modulus of Elasticity
2005 Concrete Projects Competition First Place Winner **2LT Eileen Stiffey**, United States Military Academy, West Point, New York

Committee E 801 and the ACI Missouri and Kansas Chapters would like to extend a thank you to PSI for providing the testing device.

Sunday, November 6, 2005
2:00 pm – 5:00 pm

Emerging Technologies in Civil Infrastructure Applications — C-4204A

Sponsored by the TAC Technology Transfer Committee

Session Moderator: Emmanuel K. Attiogbe
Director of Technical Services
Degussa Admixtures, Inc.
Beachwood, OH

Introduction — 2:00 pm
Emmanuel K. Attiogbe, Director of Technical Services, Degussa Admixtures, Inc., Beachwood, OH

Strategic Development Council ATA Program to Identify Critical Technology Issues Facing the Concrete Industry — 2:05 pm
Peter H. Emmons, President, Structural Group, Inc., Baltimore, MD

Autoclaved Aerated Concrete: Red, White, Blue, and Green All Over — 2:45 pm
Gene C. Abbate, Director of Market Development, International Masonry Institute, Albany, NY

Infrastructure Applications of Carbon Fiber Grids — 3:15 pm
Gregg J. Blaszak, Technical Marketing Manager, TechFab, Anderson, SC

The Hillman-Composite Beam — 3:45 pm
John Hillman, Principal Bridge Designer, TENG & Associates, Chicago, IL

TecEco Cement Concretes for Enhanced Durability — 4:15 pm
John Harrison, Managing Director, TecEco Pty., Ltd., Tasmania, Australia

Sunday, November 6, 2005
2:00 pm – 5:00 pm

State-of-the-Art Practice in Health Monitoring Systems and Data Management for Infrastructure **C-4203B**

Sponsored by Committee 444

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

Introduction **2:00 pm**
K. Nam Shiu, Principal, Walker Restoration Consultants, Elgin, IL

Economic Benefits of Structural Health Monitoring Systems with Case Studies **2:05 pm**
Thomas L. Weinmann, Senior and Structural Diagnostic Group Manager, CTLGroup, Inc., Skokie, IL

Corrosion Monitoring of FRP Wrapped Piles **2:35 pm**
Rajan Sen, Professor, Department of Civil Engineering, University of South Florida, Tampa, FL; and **Gary Mullins**, **Kwangsuk Suh**, and **Danny Winters**, University of South Florida

Condition Assessment and Monitoring of Unbonded Post-Tensioning Systems in Floor Slabs of Parking Structures **3:05 pm**
Dan Moser, Senior Restoration Engineer, Walker Restoration Consultants, Elgin, IL; and **Sunil Puri**, Walker Restoration Consultants

Force Transfer in Grouted Soil Nails **3:35 pm**
Andrew M. Budek, Professor, Department of Civil Engineering, Texas Technological University, Lubbock, TX

Health Monitoring of an Elevated Roadway **4:05 pm**
John Pearson, Senior Engineer, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL; and **Rich Lindenberg** and **Gary Klein**, Wiss, Janney, Elstner Associates, Inc.

Laboratory and Field Performance of CFRP Retrofitted Structures **4:35 pm**
Mohsen A. Issa, Professor, Department of Civil and Materials Engineering, University of Illinois at Chicago, Chicago, IL; and **Hameed Shabila**, University of Illinois at Chicago

Sunday, November 6, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

★ Spice Up Your Concrete with FRP Composites **C-4204B**

Sponsored by Committee 440

Session Co-Moderators: John P. Busel
Director, Composites Growth Initiative
American Composites Manufacturers' Association
Arlington, VA

Luc R. Taerwe
Professor
Magnel Laboratory for Concrete Research
Ghent University
Ghent, Belgium

Introduction **2:00 pm**
John P. Busel, Director, Composites Growth Initiative, American Composites Manufacturers' Association, Arlington, VA

An Innovative Hybrid FRP-Concrete Bridge System **2:05 pm**
Mamdouh M. El-Badry, Professor of Civil Engineering, Department of Civil Engineering, University of Calgary, Calgary, Alberta, Canada; **Kyle Schonknecht**, University of Calgary; and **Hiroyuki Abe** and **Tamio Yoshioka**, Oriental Construction, Co., Ltd.

Proposed GFRP Connectors in Sandwich Panels **2:30 pm**
Maher K. Tadros, Charles J. Vranek Professor, Department of Civil Engineering, University of Nebraska-Lincoln, Omaha, NE; and **Wilast A. Pong**, and **Amgad F. Morgan Girgis**, University of Nebraska-Lincoln

Tensile Capacities of CFRP Anchors **2:55 pm**
Ugurhan Akyuz, Associate Professor, Department of Civil Engineering, Earthquake Engineering Research Center, Middle East Technical University, Ankara, Turkey; and **Gokhan Ozdemir**, Middle East Technical University

An Exploratory Study of FRP Seismic Restrainers Subjected to Dynamic Loads **3:20 pm**
M. Saiid Saiidi, Professor, Department of Civil Engineering, University of Nevada-Reno, Reno, NV; **Rita Johnson**, Forbes and Dunagan Structural Engineers; and **E. Manos Maragakis**, University of Nevada-Reno

★ Denotes theme session

Sunday, November 6, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

★ Spice Up Your Concrete with FRP Composites—continued **C-4204B**

Manufacturing, Durability, and Bond Behavior of FRP Bars with Nanoclay **3:45 pm**

P.V. Vijay, Assistant Professor, Department of Civil Engineering, Constructed Facilities Center, West Virginia University, Morgantown, WV; and **Hota V.S. GangaRao** and **V. Krishnaswamy**, West Virginia University

Textile Reinforced Mortars (TRMs) versus Fiber-Reinforced Polymers (FRPs) as Strengthening Materials for Concrete Structures **4:10 pm**

Thanasis C. Triantafillou, Professor of Civil Engineering, Department of Civil Engineering, University of Patras-Greece, Patras, Greece; and **Catherine G. Papanicolaou**, University of Patras-Greece

Innovative Triaxially Braided Ductile FRP Fabric for Strengthening Concrete Structures **4:35 pm**

Nabil F. Grace, Professor and Chairman, Department of Civil Engineering, Lawrence Technological University, Southfield, MI; **Wael F. Ragheb**, Alexandria University; and **George Abdel-Sayed**, University of Windsor

Sunday, November 6, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Innovations in FRP Material Testing and Characterization **C-4203A**

Sponsored by Committee 440

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

Brahim Benmokrane
NSERC Research Chair Professor in FRP
Reinforcement for Concrete Structures
Department of Civil Engineering
Faculty of Engineering
University of Sherbrooke
Sherbrooke, Quebec, Canada

Introduction **2:00 pm**
Carol K. Shield, Associate Professor, Department of Civil Engineering, University of Minnesota, Minneapolis, MN

Material Characterization of FRP Pre-Cured Laminates Used in Mechanically Fastened FRP Strengthening of RC Structures **2:05 pm**
Andrea Rizzo, Doctoral Student, Department of Civil Engineering, University of Lecce-Italy, Lecce, Italy; and **Nestore Galati, Antonio Nanni**, and **Lokeswarappa Dharani**, University of Missouri-Rolla

Method for Screening Durability and Constituent Materials in FRP Bars **2:35 pm**
Doug D. Gremel, Director, Non-Metallic Reinforcing, Hughes Brothers, Inc., & Aslan Pacific Ltd., Seward, NE; **Jim Stull**, Hughes Brothers, Inc., & Aslan Pacific Ltd.; and **Nestore Galati**, University of Missouri-Rolla

A New Set-Up for FRP Concrete Stable Delamination Test **3:05 pm**
Claudio Mazzotti, Assistant Professor, Department of Structural Engineering, University of Bologna, Bologna, Italy; and **Marco Savoia** and **Barbara Ferracuti**, University of Bologna

Sunday, November 6, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Innovations in FRP Material Testing and Characterization— continued **C-4203A**

Stepped Isothermal Method for Creep Rupture Studies of Aramid Fibers 3:35 pm

Chris J. Burgoyne, Professor, Department of Engineering, University of Cambridge, Cambridge, United Kingdom; and **Nadun Alwis**, Kellogg Brown and Root

Fiber Optics Technique for Quality Control and Monitoring of FRP Wet Lay-Up Installations 4:05 pm

Andrea Prota, Assistant Professor, Department of Structural Analysis and Design, University of Naples, Federico II, Naples, Italy; and **Vincenza Antonucci** and **Michele Giordano**, Institute for Composites and Biomedical Materials of Italian National Research Council

Gripping Behavior of CFRP Prestressing Rods for Novel Anchor Design 4:35 pm

Adil Al-Mayah, Research Assistant Professor, Department of Civil Engineering, University of Waterloo, Waterloo, Ontario, Canada; and **Khaled A. Soudki** and **Alan Plumtree**, University of Waterloo

Sunday, November 6, 2005
2:00 pm – 5:00 pm

Punching Shear in Reinforced Concrete Slabs, Part II **C-4202A**

Sponsored by Committee 445

Session Co-Moderators: Maria Anna Polak
Professor
Department of Civil Engineering
University of Waterloo
Waterloo, Ontario, Canada

Scott D.B. Alexander
Senior Structural Engineer
UMA Engineering, Ltd.
Edmonton, Alberta, Canada

Introduction **2:00 pm**
Maria Anna Polak, Professor, Department of Civil Engineering University of Waterloo, Waterloo, Ontario, Canada

Slab-Column Connections under Seismic Actions **2:05 pm**
David Dechka, Structural Engineer, D.C. Dechka Engineers, Ltd., Calgary, Alberta, Canada; **Simon Brown**, Read Jones Christofferson; and **Walter Dilger**, University of Calgary

Interior Slab-Rectangular Column Connections under Biaxial Lateral Loading **2:30 pm**
Susanto Teng, Associate Professor, School of Civil and Environmental Engineering, Nanyang Technological University, Singapore; and **Yiliang Tan**, Nanyang Technological University

Effect of Column Dimensions on Punching Shear Strength of Column-Slab Connections **2:55 pm**
Alaa Sherif, Associate Professor, Civil Engineering Department, Helwan University, Mataria-Cairo, Egypt; and **Mohamed Basil Emara**, **Amal Hassanein**, and **Sherif Abol-Magd**, Helwan University

Punching Shear Strength of Post-Tensioned Concrete Flat Plates **3:20 pm**
N. John Gardner, Professor, Department of Civil Engineering, University of Ottawa, Ottawa, Ontario, Canada

Sunday, November 6, 2005
2:00 pm – 5:00 pm

Punching Shear in Reinforced Concrete Slabs, Part II—continued C-4202A

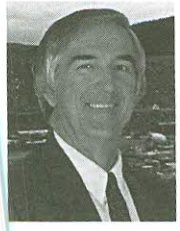
Punching of Reinforced Concrete Flat Slabs—ACI and German Guidelines 3:45 pm
Josef Hegger, Professor, Institute of Structural Concrete, Technical University of Aachen, Aachen, Germany; **Alaa Sherif**, Helwan University; and **Rudiger Beutel**, Hegger + Partner

Punching Shear at the Royal Institute of Technology (KTH) in Stockholm 4:10 pm
Hakan Sundquist, Professor, Structural Design and Bridges, Department of Architectural and Civil Engineering, Royal Institute of Technology, Stockholm, Sweden

Eurocodes and North American Codes Predictions of Punching Shear Capacity in View of Experimental Evidence 4:35 pm
Avraham Pisanty, D.Sc. Technion, Israel Institute of Technology, Haifa, Israel

Sunday, November 6, 2005
5:15 pm – 6:30 pm

Opening Session and The Lewis H. Tuthill Lecture Series C-4300 E-H



The Opening Session officially kicks off the convention. The Lewis H. Tuthill Lecture Series will be presented by George C. Hoff who will present: *Pushing the Envelope, An Overview of the New Technology Throughout the Industry*. ACI Chapter officers and various special guests will be recognized during the evening. The ACI Distinguished Achievement Award will be presented to the Concrete and Aggregate Association of Louisiana (CAAL) for its outstanding contributions to the concrete industry.

Sunday, November 6, 2005
approximately 6:30 pm – 7:30 pm
follows the Opening Session

C-4100

Opening Reception

Sponsored by ACI

Welcome to Kansas City! Meet your colleagues, ACI friends, and exhibitors for a beverage from the cash bar and a light snack before heading out to dinner at one of Kansas City's fantastic restaurants.

Please note: Beverages for events with cash bars must be paid for with cash and cannot be charged to your credit card.

Sunday, November 6, 2005
7:30 pm – 9:00 pm

FRPRCS-7 Symposium

Opening Reception and Poster Session **M-Truman**

Sponsored by Committee 440

FRPRCS-7 welcomes a global concrete community and conference attendees to an opening reception. This event provides attendees with the opportunity to network with colleagues while viewing the latest advances using FRP composites and concrete in a special Poster Session. Attendees can meet with the presenters as well as other researchers and practitioners and exchange professional viewpoints in a casual atmosphere.

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

Local Bond Slip Characteristics of GFRP Bars
Stavroula J. Pantazopoulou, Professor, Demokritus University of Thrace, Thrace, Greece; and **S.P. Tastani** and **P. Karvounis**, Demokritus University of Thrace

Static and Fatigue Bond Characteristics of Interfaces between CFRP Sheets and Frost Damage Experienced Concrete
Jianguo Dai, Research Fellow, Center of Excellence Program, Hokkaido University, Japan; and **Yuki Saito**, **Tamon Ueda**, and **Yasuhiko Sato**, Hokkaido University

Significance of Stress-Block Parameters on Moment Capacity of Concrete Sections Under-Reinforced with FRP
Girum Urgessa, Research Assistant, University of New Mexico, Albuquerque, NM; and **Scott Horton**, **Arup Maji**, and **Mahmoud Reda Taha**, University of New Mexico

Influence of Temperature on Debonding of Externally Bonded CFRP
E.L. Klamer, Eindhoven University of Technology, Eindhoven, Netherlands; and **D.A. Hordijk**, **Adviesbureau ir. J.G. Hageman**, and **H.J.M. Janssen**, Eindhoven University of Technology

Effect of Environmental Conditions on Bond Strength Between CFRP Laminate and Concrete Substrate
Mahmut Ekenel, Post-Doctoral Research Fellow, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO; and **Anand Khataukar** and **John J. Myers**, University of Missouri-Rolla

Sunday, November 6, 2005
7:30 pm – 9:00 pm

FRPRCS-7 Symposium

Opening Reception and Poster Session—continued **M-Truman**

FRP Stay-in-Place Formwork for Seismic-Resistant High-Strength Concrete Columns
Togay Ozbakkaloglu, Post-Doctoral Candidate, Department of Civil Engineering, University of Ottawa, Ottawa, Ontario, Canada; and **M. Saatcioglu**, University of Ottawa

Closed Form Design Equations for FRP-Strengthened Concrete Beams: Rupture Failure Mode
Hayder A. Rasheed, Assistant Professor, Department of Civil Engineering, Kansas State University, Manhattan, KS; and **Naghme Hatami**, Lund Institute of Technology

External Prestressing Concrete Columns with Fibrous Composite Belts
Kourosh Nasrollahzadeh Nesheli, Post-Doctoral Research Fellow, University of Tokyo, Tokyo, Japan and Assistant Professor, University of Tehran, Iran and Consultant, Building and Housing Research Center, Iran; and **Kimiro Meguro**, University of Tokyo

Flexural Strengthening of RC Beams Using Steel-Reinforced Polymer (SRP) Composites
Amir Fam, Assistant Professor and Canada Research Chair, Department of Civil Engineering, Queen's University, Kingston, Ontario, Canada; **Yail J. Kim** and **Andrew Kong**, Queen's University; and **Raafat El-Hacha**, University of Calgary

Shear-Strengthening Effects with Varying Types of FRP Materials and Strengthening Methods
Cheolwoo Park, Research Professor, Department of Civil and Environmental Engineering, Hanyang University, Sangnok-gu Ansan, Korea; **Jongsung Sim** and **Minkwan Ju**, Hanyang University; and **Gyuseon Kim**, Korea Infrastructure Safety and Technology Corp.

Modeling of Reinforced Concrete Flexural Members Strengthened with Near-Surface Mounted FRP Reinforcement
Raafat El-Hacha, Assistant Professor, Department of Civil Engineering, University of Calgary, Calgary, Alberta, Canada; **Sami H. Rizkalla**, North Carolina State University; and **Renata Kotynia**, Technical University of Lodz

Bond Performance of Deformed GFRP Rebar with Milled Fibers to Concrete
Doyoung Moon, Department of Civil and Environmental Engineering, Hanyang University, Sangnok-gu Ansan, Korea; **Jongsung Sim**, Hanyang University; and **Hongseob Oh**, Jinju National University

Sunday, November 6, 2005
7:30 pm – 10:00 pm

Hot Topic Session—Can Concrete Survive Blast and Fire? **M-Basie CC1**

Sponsored by the Hot Topic Committee

Session Moderator: H.S. Lew
Senior Research Engineer
Building and Fire Research Laboratory
National Institute of Standards and Technology
Gaithersburg, MD

Introduction **7:30 pm**
H.S. Lew, Senior Research Engineer, Building and Fire Research Laboratory, National Institute of Standards and Technology, Gaithersburg, MD

U.S. Department of Defense Approach to Design of Structures for Blast Loading **7:35 pm**
Edward Conrath, Structural Engineer, U.S. Army Corps of Engineers, Protective Design Center, Omaha, NE

General Services Administration Approach to Design of Structures for Blast Loading **7:55 pm**
Bruce E. Hall, Structural Engineer, U.S. General Services Administration, Washington, DC

Modeling and Computational Tools for Blast-Resistant Design **8:15 pm**
Robert Smilowitz, Principal, Weidlinger Associates, New York, NY

Blast Loading for Design and Detailing Considerations for New and Retrofit Structures **8:45 pm**
Donald O. Dusenberry, Principal, Simpson Gumpertz & Heger, Inc., Boston, MA

Extreme Fire Event—Analysis and Design Considerations **9:15 pm**
Brian Meacham, Principal Risk Consultant, ARUP, Boston, MA

Monday, November 7, 2005
6:30 am – 8:15 am

Workshop for Technical Committee Chairs **C-4300D**
(invitation only)

Sponsored by the Technical Activities Committee

Session Moderator: Steven H. Kosmatka
Vice President of Research and
Technical Services
Portland Cement Association
Skokie, IL

Technical committee chairs are invited to attend this breakfast workshop for an opportunity to meet with fellow chairs, TAC members, and staff. There will be table discussions and short presentations on recent developments of interest to ACI technical committee chairs. A buffet breakfast will be served.

Monday, November 7, 2005
9:00 am – 12:00 pm

Research in Progress **C-4204B**

Sponsored by Committee 123

Session Co-Moderators: Michelle R. Nokken
Assistant Professor
Building, Civil, and Environmental Engineering
Concordia University
Montreal, Quebec, Canada

Wilasa Vichit-Vadakan
Luce Assistant Professor
Department of Civil Engineering and Geological Sciences
University of Notre Dame
Notre Dame, IN

Introduction **9:00 am**
Michelle R. Nokken, Assistant Professor, Building, Civil, and Environmental Engineering, Concordia University, Montreal, Quebec, Canada

Design of Translucent Concrete **9:01 am**
Joel Sosa Gutiérrez, Universidad Autonoma Metropolitana, Tamaulipas, Mexico; and **Sergio Omar Galvan Cazares** and **Guillermo Landa Aviles**, Universidad Autonoma Metropolitana

Influence of Alkali-Formate Based Deicers in Causing Deleterious Expansions in Mortar Bars Containing Reactive Aggregates **9:15 am**
Ketan Sompura, Graduate Student, Department of Civil Engineering, Clemson University, Clemson, SC; and **Prasad Rangaraju**, Clemson University

Investigation into Causes of Bridge Deck Cracking **9:30 am**
Chris I. Sanders, Research Assistant, University of Arkansas, Fayetteville, AR; and **Steven W. Peyton** and **W. Micah Hale**, University of Arkansas

First HPC Bridge Deck in Oklahoma **9:45 am**
Seamus Freyne, Assistant Professor, Manhattan College, New York, NY; **Jason Geibler**, University of Oklahoma; **Walt Peters**, Oklahoma Department of Transportation; and **Chris Ramseyer**, University of Oklahoma

Monday, November 7, 2005
9:00 am – 12:00 pm

Research in Progress—continued **C-4204B**

Feasibility Study of Thermoplastic Wrap for Bridge Protection **10:00 am**
Nasim Uddin, Associate Professor, University of Alabama at Birmingham, Birmingham, AL

Fatigue Strength of Corroded Prestressing Strand **10:15 am**
Jeffrey S. Volz, Instructor and Post-Doctoral Candidate, Department of Civil Engineering, Pennsylvania State University, University Park, PA; and **Andrea J. Schokker**, Pennsylvania State University

Moving Load Tests of Full-Scale CRC Deck Girders to Failure **10:30 am**
Christopher Higgins, Associate Professor, Oregon State University, Corvallis, OR; **Brian S. Nicholas**, David Evans and Associates, Inc.; and **Tanarat Potisuk**, H.W. Lochner, Inc.

Shear Behavior of Prestressed Concrete Panels **10:45 am**
Jun Wang, Post-Doctoral Student, University of Houston, Houston TX; and **Thomas T.C. Hsu** and **Y.L. Mo**, University of Houston

Nonlinear Finite Element Analysis for Reinforced Concrete Flat Plate Structure **11:00 am**
Wang Wenyuan, Nanyang Technological University, Singapore; and **Susanto Teng**, Nanyang Technological University

Full Scale Tests of Headed Bars with Small Head in Beam-Column Joints **11:15 am**
Sung Chul Chun, Senior Researcher, Daewoo Institute of Construction Technology, Korea; and **Sung Ho Lee** and **Bohwan Oh**, Daewoo Institute of Construction Technology

Field Repair of RC Bridge Using Different Methods **11:30 am**
J. Ashley Warren, Graduate Research Assistant, Tulane University, New Orleans, LA; and **Anthony J. Lamanna**, Tulane University

Fatigue Behavior of RC Beams Strengthened with FRP and Concrete Screws **11:45 am**
Jeremy A. Martin, Tulane University, New Orleans, LA; and **Anthony J. Lamanna**, Tulane University

Monday, November 7, 2005
9:00 am – 12:00 pm

Ned H. Burns Symposium—Historic Innovations in Prestressed Concrete, Part I **C-4204A**

Sponsored by Committee 423

Session Co-Moderators:

Andrea J. Schokker
Associate Professor and Henderson Chair
Department of Civil and Environmental Engineering
Pennsylvania State University
University Park, PA

Robert W. Barnes
Assistant Professor
Department of Civil Engineering
Auburn University
Auburn, AL

Introduction **9:00 am**
Andrea J. Schokker, Associate Professor and Henderson Chair, Department of Civil and Environmental Engineering, Pennsylvania State University, University Park, PA

Contributions of Gustave Magnel to Development of Prestressed Concrete **9:05 am**
Luc R. Taerwe, Professor, Magnel Laboratory for Concrete Research, Department of Structural Engineering, Ghent University, Ghent, Belgium

Early Applications of Prestressed Concrete in the United Kingdom **9:30 am**
Chris J. Burgoyne, Reader in Concrete Structures, Department of Engineering, University of Cambridge, Cambridge, United Kingdom

Historical Review of Prestressed Concrete through Patents **9:55 am**
Andrea J. Schokker, Associate Professor and Henderson Chair, Department of Civil and Environmental Engineering, Pennsylvania State University, University Park, PA

They Wrote the Book on Prestressed Concrete **10:20 am**
Ward N. Marianos, Jr., Consulting Engineer, Webster Groves, MO

Monday, November 7, 2005
9:00 am – 12:00 pm

Ned H. Burns Symposium—Historic Innovations in Prestressed Concrete, Part I—continued **C-4204A**

History and Development of Prestressed/Post-Tensioned Folded Plate Shells for Roof Structures in the United States **10:45 am**
Kimberly W. Kramer, Assistant Professor, Department of Architectural Engineering and Construction Science, Kansas State University, Manhattan, KS

Development of Unbonded Post-Tensioning Tendons Used in Parking Structures in Deicing Salt Regions **11:10 am**
H. Carl Walker, President, CW Consulting, LLC, Kalamazoo, MI

Evolution in Analysis and Design of Prestressed Concrete Beams with Unbonded Tendons **11:35 am**
Antoine E. Naaman, Professor, Department of Civil and Environmental Engineering, University of Michigan, Ann Arbor, MI

Monday, November 7, 2005
9:00 am – 12:00 pm

★ Silica Fume in Concrete—A Spice for Many Purposes, Part I C-4202A

Sponsored by Committee 234

Session Co-Moderators: Tony N. Kojundic
Business Manager
Elkem Materials, Inc.
Pittsburgh, PA

Robert J. Hoopes
Senior Technical Services Engineer
W.R. Grace
Cambridge, MA

Introduction **9:00 am**
Tony N. Kojundic, Business Manager, Elkem Materials, Inc., Pittsburgh, PA

Revised Guide to Silica Fume in Concrete—What is New: Where Do We Go from Here? **9:05 am**
Per Fidjestol, Senior Technical Manager, Elkem ASA Materials, Kristiansand, Norway

Advances and Trends in Implementing Silica Fume/High-Performance Concrete in the Western States **9:35 am**
Tarif M. Jaber, President, Jaber Engineering, Scottsdale, AZ

Fundamental Mechanisms of Silica Fume in Concrete—The Significant Additions to Chapter 3 **10:05 am**
Rachel J. Detwiler, Senior Materials Engineer, Braun Intertec Corp., Minneapolis, MN

Cost Analysis and Investigation of Effect of Micro and Nano Silica on Self-Compacting Concrete **10:35 am**
Ali Akbar Maghsoudi, Assistant Professor, Department of Civil Engineering, Shahid Bahonar University, Kerman, Iran; **Hooman Hoornahad**, Shahid Bahonar University; and **F. Arabpour Dahoori**, Hormozgan University

The Dubai Airport Extension—The Largest Silica Fume Concrete Project Ever **11:05 am**
Robert Lewis, Technical Manager, Elkem Ltd., Berkshire, United Kingdom

Silica Fume User Manual **11:35 am**
Terence C. Holland, Consulting Engineer, Mantua, OH

★ Denotes theme session

Monday, November 7, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Strengthening of Existing Masonry Structures with FRP Systems **C-4203A**

Sponsored by Committee 440

Session Co-Moderators: Antonio Nanni
Vernon and Maralee Jones Professor of Civil Engineering
Department of Civil Engineering
University of Missouri-Rolla
Rolla, MO

Thanasis C. Triantafillou
Professor of Civil Engineering
Department of Civil Engineering
University of Patras-Greece
Patras, Greece

Introduction **9:00 am**
Antonio Nanni, Vernon and Maralee Jones Professor of Civil Engineering, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO

Out-of-Plane Static and Blast Resistance of Unreinforced Masonry Wall Connections Strengthened with FRP **9:05 am**
John J. Myers, Associate Professor, Department of Civil, Architectural, and Environmental Engineering, University of Missouri-Rolla, Rolla, MO; and **Preston W. Carney**, Wallace Engineering

Out-of-Plane Bending Behavior of Unreinforced Masonry Walls Strengthened with Composite Materials—Modeling and Analysis **9:30 am**
Oded Rabinovitch, Senior Lecturer, Institute of Technology, Technion-Israel, Haifa, Israel; and **Ehab Hamed**, Technion-Israel

Design Guidelines for Masonry Structures: Out of Plane Loads **9:55 am**
Nestore Galati, Research Engineer, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO; **Enrico Garbin**, University of Padua; **J. Gustavo Tumialan**, Simpson Gumpertz & Heger; and **Antonio Nanni**, University of Missouri-Rolla

Monday, November 7, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Strengthening of Existing Masonry Structures with FRP Systems—continued — **C-4203A**

FRP Repair Methods for Unreinforced Masonry Structures Subjected to Cyclic Loading — **10:25 am**

Peter B. Foster, Doctoral Research Assistant, Department of Civil Engineering, University of North Carolina at Charlotte, Charlotte, NC; **Janos Gergely** and **David T. Young**, University of North Carolina at Charlotte; and **W. Mark McGinley** and **Anna Corzo**, North Carolina Agricultural and Technical University

In-Plane Strengthening of Unreinforced Masonry Wall with Prestressed GFRP Bars — **10:50 am**

Piyong Yu, Graduate Student, Center for Infrastructure Engineering Studies, University of Missouri-Rolla, Rolla, MO; and **Pedro Franco Silva** and **Antonio Nanni**, University of Missouri-Rolla

Cyclic In-Plane Shear of Concrete Masonry Walls Strengthened by FRP Laminates — **11:15 am**

Medhat A. Haroun, Dean and AGIP Professor of Engineering, School of Sciences and Engineering, American University in Cairo, Cairo, Egypt; and **Ayman S. Mosallam** and **Khaled H. Allam**, University of California-Irvine

Seismic Performance of Masonry Infill Walls Retrofitted with CFRP Sheets — **11:40 am**

Murat Saatcioglu, Professor and University Research Chair, Department of Civil Engineering, University of Ottawa, Ottawa, Ontario, Canada; **Fabio Serrato**, Carl Walker, Inc.; and **Simon Foo**, Public Works and Government Services Canada

Monday, November 7, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Bond of FRP Bars, Sheets, Laminates, and Anchorages to Concrete **C-4203B**

Sponsored by Committee 440

Session Co-Moderators:

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

Kypros Pilakoutas
Professor
Department of Civil and
Structural Engineering
University of Sheffield
Sheffield, England

Introduction **9:00 am**
Sami H. Rizkalla, Distinguished Professor of Civil Engineering, Department of Civil Engineering, North Carolina State University, Raleigh, NC

Effect of Adhesive Type on Bond of NSM Tape to Concrete **9:05 am**
Carol K. Shield, Associate Professor, Department of Civil Engineering, University of Minnesota, Minneapolis, MN; **Catherine E. French**, University of Minnesota; and **Emily Milde**, Opus

Modeling of FRP Concrete Bond Using Nonlinear Damage Mechanics **9:30 am**
Carlos A. Coronado, Doctoral Candidate and Research Assistant, Department of Civil Engineering, Pennsylvania State University, State College, PA; and **María Lopez de Murphy**, Pennsylvania State University

Experimental Study of Short NSM-FRP Bar Anchorages **9:55 am**
Dimitris G. Novidis, Doctoral Candidate, Department of Civil Engineering, Demokritus University of Thrace, Thrace, Greece; and **Stavroula J. Pantazopoulou**, Demokritus University of Thrace

Intermediate Crack-Induced Debonding in FRP-Strengthened Flexural Members with Different Shear-Span Ratios **10:20 am**
Zishen Wu, Professor, Department of Urban and Civil Engineering, Ibaraki University, Hitachi, Japan; and **Hemdan Said**, Ibaraki University

Monday, November 7, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Bond of FRP Bars, Sheets, Laminates, and Anchorages to Concrete—continued C-4203B

Enhancing End Anchorage of Bonded FRP Repairs 10:45 am
Michael J. Chajes, Professor and Chair, Department of Civil and Environmental Engineering, University of Delaware, Newark, DE; **Harry Shenton**, University of Delaware; and **William Finch**, Structural Testing, Inc.

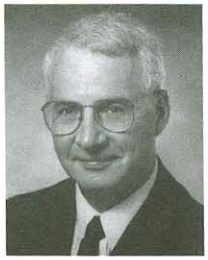
FRP-Concrete Bond Behavior: A Parametric Study Through Pull-Off Testing 11:10 am
Brian M. McSweeney, Structural Engineer, Linton Engineering, Vienna, VA; and **María Lopez de Murphy**, Pennsylvania State University

Modeling of Debonding Failures in FRP-Strengthened Two-Way Slabs 11:35 am
Walid A. Elsayed, Doctoral Candidate, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, Quebec, Canada; and **Usama A. Ebead** and **Kenneth W. Neale**, University of Sherbrooke

Monday, November 7, 2005
12:00 pm – 2:00 pm

✓Student Lunch **C-4300D**
$46 U.S. per person

Hosted by Committee E 801



Speaker: **Kenneth C. Hover**
Professor of Structural Engineering
Cornell University
Ithaca, NY

Title: The Scope of the Concrete Industry

Much of the excitement and fascination of our industry originates in its mind-boggling scope. We convert earth materials that were formed millions of years ago into a versatile building material that begins to react in seconds, can set in minutes, gains strength in hours, carries design loads in days (or less) and can perform its intended function for centuries. We measure the physical dimensions of concrete projects in kilometers, individual members in 10s of meters, the human dimension in meters, coarse aggregates and rebar in centimeters, sand in millimeters, and features of hardened cement paste in nanometers. As ACI membership proves, there is time and space, and a unique scale for all of us.

Following lunch, awards will be given to the first, second, and third place winners of the Student Concrete Cube Competition.

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

✓Separate fee required

Monday, November 7, 2005
2:00 pm – 3:00 pm

Convention Moderator Question and Answer **C-2207**

Sponsored by ACI

ACI Staff will be available to answer your questions regarding moderating at an upcoming session. Possible topics include what forms to complete, deadlines, speaker replacements, moderator training, etc.

All session moderators must complete Session Moderator Training prior to final approval for their session. Session Moderator Training may be found on the ACI website at **http://www.concrete.org/EVENTS/EV_CONVENTIONS.HTM**.

Monday, November 7, 2005
2:00 pm – 5:00 pm

★ Silica Fume in Concrete—A Spice for Many Purposes, Part II **C-4202A**

Sponsored by Committee 234

Session Co-Moderators: Rachel J. Detwiler
Senior Materials Engineer
Braun Intertec Corp.
Minneapolis, MN

Robert Lewis
Technical Manager
Elkem, Ltd.
Berkshire, United Kingdom

Silica Fume Concrete in the Field—Documentation of Performance After More Than 20 Years Exposure in Real Structures 2:00 pm
Per A. Jahren, P J Consult A/S, Hvalstad, Norway

High-Performance Silica Fume Concrete in Marine Bridge System in Mumbai, India 2:30 pm
Kshemendra Nath, Regional Manager, Elkem India Pty, Ltd., Mumbai, India

Verification of Prediction Models for Creep and Shrinkage of High-Strength Concrete Containing Pozzolans 3:00 pm
Hani H. Nassif, Associate Professor, Department of Civil Engineering, Rutgers, The State University of New Jersey, Piscataway, NJ; and **Nakin Suksawang**, Rutgers, The State University of New Jersey

New Frontiers in High-Strength Concrete—The World's Tallest Towers in Asia 3:30 pm
James M. Aldred, GHD Global Pty, Ltd., Dubai, United Arab Emirates

High Modulus of Elasticity, High-Strength Concrete in Chicago 4:00 pm
Mike F. Pistilli, Technical Manager, Prairie Materials, Bridgeview, IL

The Future of Silica Fume Concrete—and Research Needs 4:30 pm
Terence C. Holland, Consulting Engineer, Mantua, OH; and **Per Fidjestol**, Elkem ASA Materials

Monday, November 7, 2005
2:00 pm – 5:00 pm

History of Concrete **C-4204B**

Sponsored by Committee 120

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

Introduction **2:00 pm**
Luke M. Snell, Professor of Construction Management, Director, Concrete Construction Resource Unit, Southern Illinois University Edwardsville, Edwardsville, IL

Grave Yard Concrete **2:01 pm**
Billie G. Snell, Educational Research Consultant, Southern Illinois University Edwardsville, Edwardsville, IL; and **Debbie Amon**, Ardamon and Associates, Inc.

Concrete Skeletons in Death Valley **2:20 pm**
Laurel M. Dovich, Professor of Civil Engineering, Department of Civil Engineering, Walla Walla College, College Place, WA

Concrete Kicks on Route 66 **2:40 pm**
Kurt D. Smith, Program Director, Applied Pavement Technology, Inc., Champaign, IL

Historical Development of Monolithic Flat Slab Concrete Systems **3:00 pm**
Thomas L. Rewerts, Structural Engineer, Thomas Rewerts & Co., Overland Park, KS

Design Aid for Working with Existing Concrete Construction **3:20 pm**
Lionel E. Dayton, Project Engineer, BKBM Engineers, Minneapolis, MN

The Temple of Unique Design **3:40 pm**
Kimberly W. Kramer, Assistant Professor, Department of Civil Engineering, Kansas State University, Manhattan, KS; and **Erin Mulcahy**, Kansas State University

Monday, November 7, 2005
2:00 pm – 5:00 pm

History of Concrete— continued **C-4204B**

Historical Development of Durable Concrete in Dams for the Bureau of Reclamation **4:00 pm**
Timothy P. Dolen, Research Civil Engineer and Senior Technical Specialist, U.S. Department of the Interior, Bureau of Reclamation, Denver, CO

History of Concrete in Algeria **4:20 pm**
Abdeldjelil Belarbi, Distinguished Professor, Department of Civil, Architectural, and Environmental Engineering, University of Missouri-Rolla, Rolla, MO; **Abdellatis F. Baghli**, University of Tlemcen; and **Luke M. Snell**, Southern Illinois University Edwardsville

Lake Pontchartrain Seawall: WPA Project Serves Well **4:40 pm**
Tom Smith, Senior Structural Engineer, Design Engineers, Metairie, LA

Monday, November 7, 2005
2:00 pm – 5:00 pm

Ned H. Burns Symposium—Historic Innovations in Prestressed Concrete, Part II **C-4204A**

Sponsored by Committee 423

Session Co-Moderators:

Bruce W. Russell
Associate Professor
School of Civil and Environmental Engineering
Oklahoma State University
Stillwater, OK

H.R. "Trey" Hamilton, III
Associate Professor
Department of Civil and Coastal Engineering
University of Florida
Gainesville, FL

Comparison of Methods for Experimentally Determining Prestress Losses in Pretensioned Prestressed Concrete Girders **2:00 pm**
Carol K. Shield, Associate Professor, Department of Civil Engineering, University of Minnesota, Minneapolis, MN; and **Eray Baran** and **Catherine E. French**, University of Minnesota

Innovations in Prestressed Concrete Pavement **2:25 pm**
David K. Merritt, Project Manager, The Transtec Group, Inc., Austin, TX; and **B. Frank McCullough**, The University of Texas at Austin

Advances in Post-Tensioned Concrete Parking Facilities Seismic Design **2:50 pm**
Mohammad Iqbal, Senior Vice President and General Counsel, Walker Parking Consultants, Elgin, IL

Overview of ACI 440.4R-04 Document on Prestressing Concrete with FRP Tendons **3:15 pm**
Raafat El-Hacha, Assistant Professor, Department of Civil Engineering, University of Calgary, Calgary, Alberta, Canada; **T.I. Campbell**, Queen's University; and **Charles Dolan**, University of Wyoming

Variable Thickness Barrel Anchor for CFRP Prestressing Rods **3:40 pm**
Adil Al-Mayah, Research Assistant Professor, Department of Civil Engineering, University of Waterloo, Waterloo, Ontario, Canada; and **Khaled A. Soudki** and **Alan Plumtree**, University of Waterloo

Monday, November 7, 2005
2:00 pm – 5:00 pm

Ned H. Burns Symposium—Historic Innovations in Prestressed Concrete, Part II—continued C-4204A

Behavior of Pretensioned Type II AASHTO Girders Constructed with Self-Consolidating Concrete 4:05 pm
H.R. "Trey" Hamilton, III, Associate Professor, Department of Civil and Coastal Engineering, University of Florida, Gainesville, FL; **Ted Labonte**, Botkin Parassi & Associates, Inc.; and **Marcus H. Ansley**, Florida Department of Transportation

A Pioneer in Precast Segmental Box Girders in the USA 4:30 pm
John E. Breen, Al-Rashid Chair in Civil Engineering, Department of Civil, Architectural, and Environmental Engineering, The University of Texas at Austin, Austin, TX

Ned Burns—Scholar, Educator, and Engineer 4:45 pm
Richard W. Furlong, Professor Emeritus, Department of Civil, Architectural, and Environmental Engineering, The University of Texas at Austin, Austin, TX

Monday, November 7, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Strengthening of Existing Concrete Structures Using FRP Systems, Part I — **C-4203A**

Sponsored by Committee 440

Session Co-Moderators:

Tarek Alkhrdaji
Structural Engineer
Strengthening Division
Structural Preservation Systems, Inc.
Hanover, MD

Mamdouh M. El-Badry
Professor of Civil Engineering
Department of Civil Engineering
University of Calgary
Calgary, Alberta, Canada

Introduction — **2:00 pm**
Tarek Alkhrdaji, Structural Engineer, Strengthening Division, Structural Preservation Systems, Inc., Hanover, MD

Design Guidelines for Strengthening of Existing Structures with FRP in Italy — **2:05 pm**
Gaetano Manfredi, Professor, Department of Civil Engineering, University of Naples Federico II, Naples, Italy; **Luigi Ascione**, University of Salerno; **Andrea Benedetti**, University of Bologna; **Roberto Frassine** and **Carlo Poggi**, Politecnico of Milan; **Giorgio Monti**, University of Rome La Sapienza; **Antonio Nanni**, University of Missouri-Rolla; and **Elio Sacco**, University of Cassino

Finite Element Modeling of RC Beams Retrofitted with CFRP Fabrics — **2:30 pm**
Huy Binh Pham, Doctoral Candidate, Department of Civil Engineering, Monash University, Australia; and **Riadh Al-Mahaidi**, Monash University

Behavior of RC Beams Strengthened with Externally Post-Tensioning CFRP Strips — **2:55 pm**
K.S. Choi, Researcher, Korea Institute of Construction Technology, Republic of Korea; and **Y.C. You**, **Y.H. Park**, **J.S. Park**, and **K.H. Kim**, Korea Institute of Construction Technology

Monday, November 7, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Strengthening of Existing Concrete Structures Using FRP Systems, Part I—continued — **C-4203A**

Influence of Bond Behavior on Cross-Sectional Forces in Flexural RC Members Strengthened with FRC — **3:20 pm**
Gerhard M. Zehetmaier, Co-Chair of Concrete Structures, Technical University of Munich, Munich, Germany; and **Konrad Zilch**, Technical University of Munich

FRP Strengthening in Shear: Tests and Design Equations — **3:45 pm**
Marc'Antonio Liotta, Doctoral Student, Structural Department of Engineering and Geotecnica, University La Sapienza of Rome, Rome, Italy; and **Giorgio Monti**, University La Sapienza of Rome

Post-Repair Performance of Bond Critical Corrosion Damaged Concrete Beams — **4:10 pm**
Brent Craig, Civil Designer, Acres International, Niagara Falls, Ontario, Canada; and **Khaled A. Soudki**, University of Waterloo

Bond Strengthening of Steel Bars Using External FRP Confinement: Implications on the Static and Cyclic Response of R/C Members Repaired with FRP — **4:35 pm**
Mohamed H. Harajli, Professor, Department of Civil and Environmental Engineering, American University of Beirut, Beirut, Lebanon

Monday, November 7, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Serviceability of FRP Reinforced Concrete Structures **C-4203B**

Sponsored by Committee 440

Session Co-Moderators:

Kent A. Harries
Assistant Professor
Department of Civil and Environmental Engineering
University of Pittsburgh
Pittsburgh, PA

Zishen Wu
Professor
Department of Urban and Civil Engineering
Ibaraki University
Hitachi, Japan

Introduction **2:00 pm**
Kent A. Harries, Assistant Professor, Department of Civil and Environmental Engineering, University of Pittsburgh, Pittsburgh, PA

Fatigue Behavior of Prestressed Concrete Bridge Girders Strengthened with Various CFRP Systems **2:05 pm**
Sami H. Rizkalla, Distinguished Professor of Civil Engineering, Department of Civil Engineering, North Carolina State University, Raleigh, NC; and **Owen Arthur Rosenboom**, North Carolina State University

Fatigue Behavior of Reinforced Concrete Beams Strengthened with Different FRP Laminate Configurations **2:30 pm**
Richard Gussenhoven, Instructor, Department of Mathematical Sciences, U.S. Military Academy, West Point, NY; and **Sergio F. Brena**, University of Massachusetts-Amherst

Steel-Free Hybrid FRP Stiffened Panel-Concrete Deck System **2:55 pm**
Lijuan (Dawn) Cheng, Graduate Researcher, Department of Structural Engineering, University of California-San Diego, La Jolla, CA; and **Vistasp M. Karbhari**, University of California-San Diego

Rationale for the ACI 440.1R-06 Indirect Deflection Control Design Provisions **3:20 pm**
Carlos E. Ospina, Senior Engineer, Berger/ABAM Engineers, Inc., Federal Way, WA; and **Shawn P. Gross**, Villanova University

Monday, November 7, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Serviceability of FRP Reinforced Concrete Structures—continued **C-4203B**

Time Depending Thermo Mechanical Bond Behavior of Epoxy-Bonded Prestressed FRP Reinforcement **3:45 pm**

Kurt Borchert, Chair of Concrete Structures, Institute of Building Materials and Construction, Technical University of Munich, Munich, Germany; and **Konrad Zilch**, Technical University of Munich

Long-Term Performance of CFRP Strap Shear Retrofitting System **4:10 pm**

Neil Hoult, Doctoral Candidate, Department of Engineering, Cambridge University, Cambridge, United Kingdom; and **Janet Lees**, Cambridge University

Freeze-Thaw Behavior of FRP-Confined Concrete when Simultaneously Subjected to Sustained Loads **4:35 pm**

Amir Z. Fam, Assistant Professor, Department of Civil Engineering, Queen's University, Kingston, Ontario, Canada; and **Andrew Kong** and **Mark F. Green**, Queen's University

Monday, November 7, 2005
5:00 pm – 6:00 pm

Women in ACI Reception **M-Basie A1**

Gather with friends and colleagues to enjoy light refreshments and good conversation. All are invited to attend this reception sponsored by Hanley Wood.

Monday, November 7, 2005
5:00 pm – 6:30 pm

Ned H. Burns Reception **M-Basie BB1**
(150 people maximum)

Sponsored by Committee 423

A member of the National Academy of Engineering, Burns has been a true pioneer in prestressed concrete and has made significant contributions as an engineer, researcher, and educator. As a professor at the University of Texas at Austin and an ACI Fellow, Burns has also played a significant role in shaping the careers of many current and past ACI members. Please join in this celebration honoring his extensive contributions to advancements in the design and construction of prestressed concrete structures over the past five decades.

Monday, November 7, 2005
7:30 pm – 10:00 pm

123 Forum—Should the Concrete Materials Specifications be Rewritten? **M-Basie CC1**

Sponsored by Committee 123

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

Introduction **7:30 pm**
Mohammad S. Khan, Vice President, Professional Services Industries, Inc., Fairfax, VA

Should the Concrete Materials Specifications be Rewritten—Not Necessarily! **7:35 pm**
Kenneth C. Hover, Professor, Department of Civil and Environmental Engineering, Cornell University, Ithaca, NY

Redefining Boiler Plate Project Specifications **7:55 pm**
Steven H. Kosmatka, Vice President of Research and Technical Services, Portland Cement Association, Skokie, IL

What is Important to Good Concrete **8:05 pm**
F. Al Innis, Vice President, Quality, Holcim (US) Inc., Ann Arbor, MI

Specifying Concrete That May Have Alkali-Reactive Aggregates **8:15 pm**
Rachel J. Detwiler, Senior Materials Engineer, Braun Intertec Corp., Minneapolis, MN

Striking a Good Match Between the Owner and the Contractor **8:25 pm**
Bryce P. Simons, State Concrete Engineer, New Mexico Department of Transportation, Santa Fe, NM

Questions, Answers, and Discussion **8:45 pm**

Tuesday, November 8, 2005
9:00 am – 12:00 pm

Contractors' Day, Part I **C-4204A**

Sponsored by the ACI Kansas and Missouri Chapters and the Construction Liaison Committee

Session Moderator: Steven R. Kueffer
Director of Project Marketing
Penny's Concrete, Inc.
Shawnee, KS

Introduction **9:00 am**
Steven R. Kueffer, Director of Project Marketing, Penny's Concrete, Inc., Shawnee, KS

Self-Consolidating Concrete Acceptance—Where Are We? **9:05 am**
Joseph A. Daczko, Product Line Manager, Degussa Admixtures, Inc., Cleveland, OH

Advances in Non-Conventional Reinforcement **9:40 am**
Russell W. Collins, Area Manager, SI Concrete Systems, Round Rock, TX

Concrete Repair—Repair of Construction Deficiencies **10:15 am**
Jay Thomas, Vice President, Structural Group, Inc., Hanover, MD

Practical Design Criteria for Shoring/Reshoring Operations in Multistory Buildings **10:50 am**
Pericles C. Stivaros, Associate, Feld, Kaminetzky, and Cohen, PC, Roslyn Heights, NY

Specifications—Performance Versus Prescriptive **11:25 am**
Kevin MacDonald, Vice President of Engineering, Cemstone Products Co., Mendota Heights, MN

Tuesday, November 8, 2005
9:00 am – 12:00 pm

Impact of Rebar Constructibility on Project Performance **C-4202A**

Sponsored by Committees E 702 and 315-B

Session Co-Moderators: Richard H. Birley
President
Condor Rebar Consultants, Inc.
Vancouver, British Columbia, Canada

Roy H. Reiterman
Consulting Engineer
Roy H. Reiterman and Associates
Consulting Engineers
Troy, MI

Introduction **9:00 am**
Richard H. Birley, President, Condor Rebar Consultants, Inc., Vancouver, British Columbia, Canada

Nature of Rebar Detailing **9:05 am**
Jay A. Hetherington, Manager of Estimating-Steel Group, SMI-Texas, Seguin, TX

Bending Limitations in Concrete and Masonry **9:35 am**
Dennis L. Hunter, Engineering Manager, Gerdau Ameristeel, Plant City, FL

Details—Shear Walls and Boundary Elements **10:05 am**
Dale Rinehart, Engineering Manager, Fontana Steel, Rancho Cucamonga, CA

Drawing Details and Constructibility **10:35 am**
Gregory P. Birley, Vice President, Technical Development and Training, Condor Rebar Consultants, Inc., Vancouver, British Columbia, Canada

Constructibility Simplified **11:05 am**
Harrison Rolfe Jennings, SW Regional Manager, CRSI, Dallas, TX

WWR—A 'Decongestant' for Reinforced Concrete Construction **11:35 am**
Theodore A. Mize, Sales, Structural Products, Ivy Steel & Wire, Concord, CA

Tuesday, November 8, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Strengthening of Existing Concrete Structures Using FRP Systems, Part II — **C-4203A**

Sponsored by Committee 440

Session Co-Moderators:

Khalid Soudki
Canada Research Chair in Innovative Structural Rehabilitation
Department of Civil Engineering
University of Waterloo
Waterloo, Ontario, Canada

Jay Thomas
Vice President
Structural Preservation Systems
Hanover, MD

Introduction — **9:00 am**
Khalid Soudki, Canada Research Chair in Innovative Structural Rehabilitation, Department of Civil Engineering, University of Waterloo, Waterloo, Ontario, Canada

Development of Probabilistic-Based Design for FRP Strengthening of Reinforced Concrete — **9:05 am**
Rebecca Atadero, Graduate Research Assistant, Department of Structural Engineering, University of California-San Diego, La Jolla, CA; and **Vistasp M. Karbhari**, University of California

Strengthening of Concrete Structures Using Steel Wire Reinforced Polymer — **9:30 am**
Wine Figeys, ir-arch, K.U.Leuven, Department of Civil Engineering, Building Materials and Building Technology Division, Heverlee, Belgium; **Luc Schueremans** and **Dionys Van Gemert**, Building Materials and Building Technology Division; and **Kris Brosens**, Triconsult NV

Performance of Double-T Prestressed Concrete Beams Strengthened with Steel Reinforced Polymer — **9:55 am**
Paolo Casadei, Lecturer of Civil Engineering, Department of Architecture and Civil Engineering, University of Bath, Bath, United Kingdom; **Antonio Nanni**, University of Missouri-Rolla; and **Tarek Alkhrdaji** and **Jay Thomas**, Structural Preservation Systems

Tuesday, November 8, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Strengthening of Existing Concrete Structures Using FRP Systems, Part II—continued — **C-4203A**

Analytical Evaluation of RC Beams Strengthened with Near-Surface-Mounted CFRP Laminates — **10:20 am**

Jae-Yoon Kang, Senior Researcher, Structure Research Department, Korea Institute of Construction Technology, Republic of Korea; and **Young-Hwan Park**, **Jong-Sup Park**, **Young-Jun You**, and **Woo-Tai Jung**, Korea Institute of Construction Technology

Experimental Investigation on Flexural Behavior of Reinforced Concrete Beams Strengthened by Near-Surface-Mounted CFRP Reinforcements — **10:45 am**

Woo-Tai Jung, Researcher, Structure Research Department, Korea Institute of Construction Technology, Republic of Korea; and **Young-Hwan Park**, **Jong-Sup Park**, **Jae-Yoon Kang**, and **Young-Jun You**, Korea Institute of Construction Technology

Shear Strengthening of Rectangular Section RC Beams with Near-Surface-Mounted CFRP Laminates — **11:10 am**

Joaquim A.O. Barros, Associate Professor, Department of Civil Engineering, University of Minho, Guimaraes, Portugal; and **Salvador J.E. Dias**, University of Minho

Shear Assessment and Strengthening of Contiguous-Beam Concrete Bridges Using FRP Bars — **11:35 am**

Pierfrancesco Valerio, Doctoral Student, Department of Architecture and Civil Engineering, University of Bath, Bath, United Kingdom; and **Timothy Ibell** and **Anthony Peter Darby**, University of Bath

Tuesday, November 8, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Design and Behavior of Concrete Members Internally Reinforced with FRP **C-4203B**

Sponsored by Committee 440

Session Co-Moderators:

Kenneth W. Neale
Canada Research Chair in Advanced Engineered Material Systems
Department of Civil Engineering
University of Sherbrooke
Sherbrooke, Quebec, Canada

T. J. Ibell
Director of the Centre for Structural and Architectural Engineering
Department of Architecture and Civil Engineering
University of Bath
Bath, United Kingdom

Introduction **9:00 am**
Kenneth W. Neale, Canada Research Chair in Advanced Engineered Material Systems, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, Quebec, Canada

Punching Shear Capacity of Double Layer FRP Grid Reinforced Slabs **9:05 am**
Lawrence C. Bank, Professor, Department of Civil Engineering, University of Wisconsin-Madison, Madison, WI; **Michael G. Oliva** and **Jeffrey S. Russell**, University of Wisconsin-Madison; and **David A. Jacobson**, KPFF

New Punching Shear Equation for Concrete Two-Way Slabs Reinforced with FRP Bars **9:30 am**
Sherif El-Gamal, Post-Doctoral Fellow, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, Quebec, Canada; and **Ehab F. El-Salakawy** and **Brahim Benmokrane**, University of Sherbrooke

Flexural Behavior of Fiber-Reinforced Concrete Beams Reinforced with FRP Rebars **9:55 am**
Abdeldjelil Belarbi, Distinguished Professor, Department of Civil, Architectural, and Environmental Engineering, University of Missouri-Rolla, Rolla, MO; and **Huanzi Wang**, University of Missouri-Rolla

Tuesday, November 8, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Design and Behavior of Concrete Members Internally Reinforced with FRP—continued C-4203B

Finite Element Modeling of Concrete Bridge Deck Slabs Reinforced with FRP Bars 10:20 am

Ehab F. El-Salakawy, Research Associate Professor, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, Quebec, Canada; and **Amr El Ragaby** and **Brahim Benmokrane**, University of Sherbrooke

Guide Examples for Design of Concrete Reinforced with Fiber-Reinforced Polymer Bars 10:45 am

Vicki L. Brown, Associate Professor and Chairman of Civil Engineering, Department of Civil Engineering, Widener University, Chester, PA; and **William K. Feeser**, T.N. Ward Co.

Concrete Shear Strength of Concrete Beams Reinforced with FRP Bars: Design Method 11:10 am

Brahim Benmokrane, NSERC Research Chair in FRP Reinforcement for Concrete Structures, Department of Civil Engineering, University of Sherbrooke, Sherbrooke, Quebec, Canada; and **Ahmed K. El-Sayed** and **Ehab F. El-Salakawy**, University of Sherbrooke

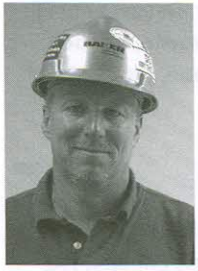
Tension Stiffening Behavior of GFRP-Reinforced Concrete 11:35 am

Kypros Pilakoutas, Professor, Department of Civil and Structural Engineering, University of Sheffield, Sheffield, United Kingdom; and **Harsha Sooriyaarachchi** and **Ewan Byars**, University of Sheffield

Tuesday, November 8, 2005
12:00 pm – 2:00 pm

✓Contractors' Day Lunch **C-4300D**
$48 U.S. per person

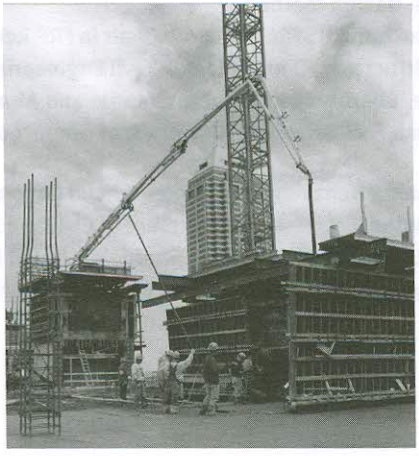
Hosted by the ACI Kansas and Missouri Chapters and the Construction Liaison Committee



Speaker: **Neal Burnette**
Operations Manager
Baker Concrete Construction, Inc.
Indianapolis, IN

Topic: **Conrad: A Five Star Concrete Structure**

The discussion will consist of exploring construction difficulties encountered, as well as a systems approach with regard to site logistics, with the construction of the Conrad Indianapolis Hotel.



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

✓Separate fee required

Tuesday, November 8, 2005
2:00 pm – 5:00 pm

Contractors' Day, Part II **C-4204A**

Sponsored by the ACI Kansas and Missouri Chapters and the Construction Liaison Committee

Session Moderator: T. Patrick Earney
Research Assistant
Department of Civil Engineering
University of Missouri–Columbia
Columbia, MO

Introduction **2:00 pm**
T. Patrick Earney, Research Assistant, Department of Civil Engineering, University of Missouri–Columbia, Columbia, MO

Maturity Testing—How Can it Benefit the Contractor? **2:05 pm**
Mark A. Cheek, Vice President, Beta Testing & Inspection, LLC, Gretna, LA

Design Features and Construction Procedures of Wire-Wound Prestressed Concrete Tanks **2:40 pm**
Andrew Minogue, Senior Design Engineer, NATGUN Co., Inc., Wakefield, MA

Fundamentals of Jointing Concrete Flatwork **3:15 pm**
Kelly Rauckman, Director of Field Marketing, Penny's Concrete, Inc., Shawnee, KS

Old and New Technologies in Concrete That Can Aid in the Contractor Being More Profitable **3:50 pm**
Richard D. Follette, Product Specialist, W.R. Grace & Co., Kenner, LA

Performance Specifications for Concrete—A Contractor's Perspective **4:25 pm**
Sam Carter, President and Owner, Carter Concrete Structures, Stone Mountain, GA

Tuesday, November 8, 2005
2:00 pm – 5:00 pm

Open Paper Session **C-4202A**

Sponsored by Committee 123

Session Co-Moderators: Prasad R. Rangaraju
Assistant Professor
Department of Civil Engineering
Clemson University
Clemson, SC

Narayanan Neithalath
Assistant Professor
Department of Civil and
Environmental Engineering
Clarkson University
Potsdam, NY

Introduction **2:00 pm**
Prasad R. Rangaraju, Assistant Professor, Department of Civil Engineering, Clemson University, Clemson, SC

Transfer Length in Prestressed SCC Members **2:01 pm**
Robert W. Barnes, Assistant Professor, Department of Civil Engineering, Auburn University, Auburn, AL; and **J. Shane Swords** and **Anton K. Schindler**, Auburn University

Identify and Secure Key Concrete Bridges Against Manmade Hazards **2:20 pm**
Zhenyu Zhu, Visiting Research Faculty, Department of Civil and Environmental Engineering, Florida International University, Miami, FL; and **Amir Mirmiran**, Florida International University

Safe Shear Design of Large, Lightly-Reinforced Concrete Beams and One-Way Slabs **2:40 pm**
Edward G. Sherwood, Post-Doctoral Candidate, Department of Civil Engineering, University of Toronto, Toronto, Ontario, Canada; and **Evan C. Bentz** and **Michael P. Collins**, University of Toronto

Hysteretic Behavior of R/C Columns Confined with Opposing Spirals **3:00 pm**
Riyadh A. Hindi, Assistant Professor, Department of Civil Engineering and Construction, Bradley University, Peoria, IL; and **Wesley Turechek**, Bradley University

Tuesday, November 8, 2005
2:00 pm – 5:00 pm

Open Paper Session—continued **C-4202A**

Relaxation of Confinement Reinforcement Requirements in Structural Walls Through the Use of High-Performance Fiber-Reinforced Cement Composites **3:20 pm**
Gustavo J. Parra-Montesinos, Assistant Professor, Department of Civil and Environmental Engineering, University of Michigan, Ann Arbor, MI; **Bekir Afsin Canbolat**, University of Michigan; and **Ganesh Jeyaraman**, Biggs Cardosa Associates, Inc.

Behavior of High-Strength Concrete Square Short Columns Subjected to Biaxial Bending Moments and Strengthened by FRP Laminates **3:40 pm**
W.M. Hassan, Associate Lecturer, Structural Engineering Department, Faculty of Engineering, Cairo University, Egypt; and **Heba Hamed Bahnasawy**, **O.A. Hodhod**, and **M. Sameh Hilal**, Hilal Structural Design and Consultants

Durability Issues of High-Strength Concrete Exposed to Elevated Temperatures **4:00 pm**
Elizabeth Kerr, Graduate Student, Department of Civil Engineering and Geological Sciences, University of Notre Dame, Notre Dame, IN; and **Wilasa Vichit-Vadakan**, University of Notre Dame

Real Scale Fire Test on Industrial Hall: Assessment of Pretensioned Concrete Girder After Fire **4:20 pm**
Luc R. Taerwe, Professor, Magnel Laboratory for Concrete Research, Ghent University, Ghent, Belgium; and **Ir.A.M. Poppe**, Ghent University

Feasibility Study of Oriented Straw Cable-Cement Composites **4:40 pm**
Anthony J. Lamanna, Assistant Professor, Department of Civil and Environmental Engineering, Tulane University, New Orleans, LA; and **Seda Seluck**, Tulane University

Tuesday, November 8, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Behavior of FRP Reinforced Concrete Columns **C-4204B**

Sponsored by Committee 440

Session Co-Moderators:

Amir Z. Fam
Assistant Professor
Department of Civil Engineering
Queen's University
Kingston, Ontario, Canada

Chris J. Burgoyne
Professor
Department of Engineering
University of Cambridge
Cambridge, United Kingdom

Introduction **2:00 pm**
Amir Z. Fam, Assistant Professor, Department of Civil Engineering, Queen's University, Kingston, Ontario, Canada

Concrete Confinement Using a Carbon Fiber Reinforced Polymer Grid **2:05 pm**
Antonis P. Michael, Graduate Research Assistant, Department of Civil and Coastal Engineering, University of Florida, Gainesville FL; **H.R. "Trey" Hamilton, III**, University of Florida; and **Marcus H. Ansley**, Florida Department of Transportation

Strain-Based Design Model for FRP-Confined Concrete Columns **2:30 pm**
Nicolas Saenz, Graduate Engineer, Walter P. Moore, Las Vegas, NV; and **Chris P. Pantelides**, University of Utah

FRP-Confinement of Hollow Concrete Cylinders and Prisms **2:55 pm**
Rossella Modarelli, Engineer, CETMA Consortium, Brindisi, Italy; **Orazio Manni**, CETMA Consortium; and **Francesco Micelli**, University of Lecce-Italy

Shape Modification with Expansive Cement Concrete for Confinement with FRP Composites **3:20 pm**
Chris P. Pantelides, Professor, Department of Civil Engineering, University of Utah, Salt Lake City, UT; and **Zihan Yan** and **Lawrence Reaveley**, University of Utah

Tuesday, November 8, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Behavior of FRP Reinforced Concrete Columns—continued **C-4204B**

Design Equations for FRP Strengthening of Columns **3:45 pm**
Giorgio Monti, Professor, Department of Civil Engineering, University La Sapienza of Rome, Rome, Italy; and **Silvia Alessandri**, University La Sapienza of Rome

Shear Strength Prediction of Deep CFFT Beams **4:10 pm**
Amir Mirmiran, Professor and Chair, Department of Civil and Environmental Engineering, Florida International University, Miami FL; **Iftekhar Ahmad**, ONM&J, Inc.; **Zhenyu Zhu**, Florida International University; and **Amir Z. Fam**, Queen's University

Field Installation, Splicing, and Flexural Testing of Hybrid FRP/Concrete Piles **4:35 pm**
Karim Helmi, ISIS Canada, University of Manitoba, Winnipeg, Manitoba, Canada; **Aftab Mufti**, University of Manitoba, ISIS Canada; and **Amir Z. Fam**, Queen's University

Tuesday, November 8, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Field Applications of FRP Reinforced Concrete Structures **C-4203A**

Sponsored by Committee 440

Session Co-Moderators: Stephanie L. Walkup
Senior Associate
Wiss, Janney, Elstner Associates, Inc.
Princeton Junction, NJ

Baidar Bakht
President
J.M.B.T. Structures Research, Inc.
Scarborough, Ontario, Canada

Introduction **2:00 pm**
Stephanie L. Walkup, Senior Associate, Wiss, Janney, Elstner Associates, Inc., Princeton Junction, NJ

Design and Construction of Bridge Deck Using FRP as Mild and Post-Tensioned Reinforcement **2:05 pm**
Raffaello Fico, Doctoral Student, Department of Structural Analysis and Design, University of Naples Federico II, Naples, Italy; **Nestore Galati**, University of Missouri-Rolla; **Andrea Prota**, University of Naples; and **Antonio Nanni**, University of Missouri-Rolla

FRP Application for Underwater Repair of Corroded Piles **2:30 pm**
Rajan Sen, Professor, Department of Civil and Environmental Engineering, University of South Florida, Gainesville, FL; and **Gary Mullins, Kwang Suk Suh**, and **Danny Winters**, University of South Florida

Strengthening of Off-System Bridges with Mechanically Fastened Pre-Cured FRP Laminates **2:55 pm**
Antonio Nanni, Vernon and Maralee Jones Professor of Civil Engineering, University of Missouri-Rolla, Rolla MO; **Andrea Rizzo**, University of Lecce; and **Nestore Galati**, University of Missouri-Rolla

Application of Tensioned CFRP Strip Method to an Existing Bridge **3:20 pm**
Akira Tatelshi, Nippon Steel Composite, Co., Ltd, Tokyo, Japan; **Akira Kobayashi**, Nippon Steel Composite, Co., Ltd; and **Yuzuru Hamada**, **Terumitsu Takahashi**, and **Hiroshi Yasumori**, DPS Bridge Works Co., Ltd.

Tuesday, November 8, 2005
2:00 pm – 5:00 pm

FRPRCS-7 Symposium Session

Field Applications of FRP Reinforced Concrete Structures —continued C-4203A

Performance Evaluation of Short-Span Bridge Built with FRP Reinforced Concrete 3:45 pm

Ursula Deza, Graduate Research Assistant, Bridge Engineering Center at the Center for Transportation Research Education (CTRE), Iowa State University, Ames, Iowa; and **Antonio Nanni**, University of Missouri-Rolla

Rehabilitation of Plaza de Diego Building in San Juan, Puerto Rico, Using CFRP 4:10 pm

Mo Ehsani, President, QuakeWrap, Inc., Tucson, AZ

Bonded and Mechanically Fastened FRP Strengthening System: A Case Study 4:35 pm

Alexis Lopez, Doctoral Student, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO; **Andrea Rizzo,** University of Lecce; and **Nestore Galati** and **Antonio Nanni**, University of Missouri-Rolla

Tuesday, November 8, 2005
2:00 pm – 5:00 pm

Full-Scale In-Situ Load Testing—Case Studies **C-4203B**

Sponsored by Committee 437

Session Moderator: Jay Thomas
Vice President
Structural Preservation Systems
Hanover, MD

Introduction **2:00 pm**
Jay Thomas, Vice President, Structural Preservation Systems, Hanover, MD

Full-Scale Load Test of Precast Concrete Roof Structure **2:05 pm**
Phillip J. Lykosh, Senior Associate, Wiss, Janney, Elstner Associates, Inc., Lakewood, CO

Load Testing and Analysis of Three Superloads on the Bonnet Care Overpass (Louisiana) **2:35 pm**
Jesse Grimson, Structural Engineer, Bridge Diagnostics, Inc., Boulder, CO; **Jennifer Fu**, Louisiana Department of Transportation and Development; and **Paul H. Ziehl**, University of South Carolina

Static and Dynamic Load Testing of Post-Tensioned Precast Segmental Reaction Wall **3:05 pm**
Keith E. Kesner, Project Director, LZA Technology Division, Thornton-Tomasetti Group, Inc., New York, NY; Gregory McLaskey, University of California Berkeley; and Mary Sansalone, Cornell University

Full-Scale Testing of Repaired Post-Tensioned Beams Using Cyclic and ACI Load Testing Methods **3:35 pm**
Tarek Alkhrdaji, Structural Engineer, Strengthening Division, Structural Group, Inc., Hanover, MD

Field Tests on RC Buildings of HSIN-TSENG Junior High School in Taiwan for Seismic Resistance **4:05 pm**
Shyh-Jiann Hwang, Professor, Department of Construction Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan

Full-Scale Load Testing of Reinforced Concrete Flat Plate Structure Retrofitted with Drop Panels **4:35 pm**
Adam Abbes Yala, Engineer, Thornton-Tomasetti Group, Inc., Chicago, IL

Tuesday, November 8, 2005
5:00 pm – 6:00 pm

Faculty Network Reception **M-Harvest**

Hosted by Committee E 803

This reception offers informal networking and idea exchange for all faculty members and students attending the ACI Convention. Light hors d'oeuvres will be available.

Tuesday, November 8, 2005
6:30 pm – 8:00 pm

Concrete Mixer **C-2103**

Sponsored by ACI

Welcome to Kansas City! Enjoy a taste of Kansas City including some terrific barbecue while networking and conversing with your friends and colleagues.

Please use your drink tickets in your registration packet or cash to purchase beverages.

Wednesday, November 9, 2005
8:30 am – 11:30 am

Chapter Operations Forum **C-4300C**

Sponsored by the ACI Chapter Activities Committee and the International Committee

Session Co-Moderators:

Andrea J. Schokker
Associate Professor and Henderson Chair
Department of Civil and Environmental Engineering
Pennsylvania State University
University Park, PA

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

Welcome and Introduction **8:30 am**
Andrea J. Schokker, Associate Professor and Henderson Chair, Department of Civil and Environmental Engineering, Pennsylvania State University, University Park, PA

Planning Chapter Activities—Using the Long Form as a Guide to Plan Chapter Activities **8:35 am**
LaGrit "Sam" F. Morris, Director of Administration, Georgia Concrete & Products Association, Tucker, GA

Membership Recruitment and Retention—Techniques to Recruit and Retain Members **8:55 am**
Alain Belanger, Product Manager, National Concrete Accessories, Toronto, Ontario, Canada; and **Mostapha A. Vand**, Vand Chemie, Co.

Programs and Seminars—How to Develop Successful Programs and Seminars **9:15 am**
Luke M. Snell, Professor of Construction Management, Director, Concrete Construction Resource Unit, Southern Illinois University Edwardsville, Edwardsville, IL; and **Enrique Pasquel**, Los Alamos De Monterrico

Wednesday, November 9, 2005
8:30 am – 11:30 am

Chapter Operations Forum—continued C-4300C

University Relations—How to Get Involved with Professors and Students 9:35 am

Andrea J. Schokker, Associate Professor and Henderson Chair, Department of Civil and Environmental Engineering, Pennsylvania State University, University Park, PA

Website Tools—Resources Available Through the ACI Website 9:55 am

John C. Glumb, Managing Director, Information, Production, and Event Services, American Concrete Institute, Farmington Hills, MI

Break 10:15 am - 10:30 am

Panel Discussion—All Speakers 10:30 am

There will be an open discussion about chapter operation issues along with questions and comments from the panelists and audience.

Wednesday, November 9, 2005
9:00 am – 12:00 pm

International Session: Textile-Reinforced Concrete (TRC)— The German Experience **C-4204A**

Sponsored by Committee 549

Session Moderator: Ashish Dubey
Senior Member Technical Staff
United States Gypsum Corp.
Libertyville, IL

Introduction **9:00 am**
Ashish Dubey, Senior Member Technical Staff, United States Gypsum Corp., Libertyville, IL

Technical Fabrics for Reinforcing Cementitious Composites **9:05 am**
Peter Offerman, Professor, Technical University of Dresden, Dresden Germany; and **Thomas Gries**, RWTH Aachen

Concrete Technology and Mixture Design for Textile-Reinforced Concrete **9:35 am**
Wolfgang Brameshubey, Professor, RWTH Aachen, Aachen, Germany; and **Harold Schorn**, Technical University of Dresden

Load-Bearing Behavior of Textile-Reinforced Concrete **10:05 am**
Manfred H. Curbach, Professor, Technical University of Dresden, Dresden, Germany; and **Josef Hegger**, RWTH Aachen

Numerical Modeling of Textile-Reinforced Concrete **10:35 am**
R. Chudoba, Professor, RWTH Aachen, Aachen, Germany; **Bernd Moller**, Technical University of Dresden; **Konstantin Meskouris**, RWTH Aachen; and **Bernd W. Zastrau**, **W. Graf**, and **I. Lepenies**, Technical University of Dresden

Dimensioning and Applications of Textile-Reinforced Concrete **11:05 am**
Josef Hegger, Professor, RWTH Aachen, Aachen, Germany

Strengthening of RC Structures with Textile-Reinforced Concrete **11:35 am**
Manfred H. Curbach, Professor, Technical University of Dresden, Dresden, Germany

Wednesday, November 9, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Effects of Extreme Events on FRP Reinforced Concrete Structures — **C-4203A**

Sponsored by Committee 440

Session Co-Moderators:

Mark F. Green
Professor
Department of Civil Engineering
Queen's University
Kingston, Ontario, Canada

Tamon Ueda
Professor
Division of Structural and Geotechnical Engineering
Hokkaido University
Sapporo, Japan

Introduction — **9:00 am**
Mark F. Green, Professor, Department of Civil Engineering, Queen's University, Kingston, Ontario, Canada

High Temperature Residual Properties of Externally-Bonded FRP Systems — **9:05 am**
Sarah Foster, Graduate Student, Department of Civil Engineering, Queen's University, Kingston, Ontario, Canada; and **Luke A. Bisby**, Queen's University

Evaluating Fire Endurance of FRP-Strengthened Square Reinforced Concrete Columns — **9:30 am**
Mark F. Green, Professor, Department of Civil Engineering, Queen's University, Kingston, Ontario, Canada

Innovative Application of FRPs for Seismic Strengthening of RC Shearwall — **9:55 am**
Katsumi Kobayashi, Professor, University of Fukui, Fukui, Japan

Innovative Technique for Seismic Upgrade of RC Square Columns — **10:25 am**
Edoardo Cosenza, Professor, Department of Structural Analysis and Design, University of Naples Federico II, Naples, Italy; **Andrea Prota**, **Gaetano Manfredi**, and **Alberto Balsamo**, University of Naples Federico II; and **Antonio Nanni**, University of Missouri-Rolla

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

International Session: Textile-Reinforced Concrete (TRC)—The International Experience—continued — C-4204A

Effects of Processing Parameters on Mechanical Properties of Textile-Reinforced Concrete — 4:15 pm
Barzin Mobasher, Professor, Department of Civil and Environmental Engineering, Arizona State University, Tempe, AZ; and **Alva Peled**, Ben-Gurion University

Size Effect in Tensile and Flexural Performance of Fine-Grained Concrete Used as Matrix for Textile-Reinforced Concrete — 4:40 pm
Wolfgang Brameshubey, Professor, RWTH Aachen, Aachen, Germany; and **Tanja Brockmann**, RWTH Aachen

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

Self-Consolidating Concrete Applications and Reviewing the Emerging Technologies **C-4203A**

Sponsored by Committee 237

Session Co-Moderators: Gary F. Knight
Technical Service Engineer
Holcim, Inc. (US)
Duluth, GA

Charles R. Cornman
Director of Research
W.R. Grace & Co.
Cambridge, MA

Introduction **2:00 pm**
Gary F. Knight, Technical Service Engineer, Holcim, Inc. (US), Duluth, GA

ASTM Update on Approval of SCC Testing Methods **2:05 pm**
Martin Vachon, Director of Technology, Axim Italcementi Group, Middlebranch, OH

Reviewing the Emerging Technologies Document on SCC **2:35 pm**
Joseph A. Daczko, Research Manager, Degussa Admixtures, Inc., Cleveland, OH

SCC at the Citadel **3:05 pm**
Godwin Q. Amekuedi, Director, Corporate Quality/Technology, Ready Mixed Concrete Co., Raleigh, NC

SCC and the New Atlanta Aquarium **3:35 pm**
Kirk K. Deadrick, Director of Quality Assurance, Lafarge North America, Alpharetta, GA

SCC Use in Lightweight Precast Concrete Projects **4:05 pm**
Jody Wall, Director of Technical Services, Carolina Stalite Co., Gold Hill, NC

Fine Aggregate Options for SCC **4:35 pm**
Don Powell, Technical Director, Vulcan Materials Co., Birmingham, AL

Wednesday, November 9, 2005
9:00 am – 12:00 pm

FRPRCS-7 Symposium Session

Durability of FRP for Reinforced Concrete Structures—continued **C-4203B**

Durability of CFRP Sheet Reinforcement Through Exposure Tests **10:20 am**
Itaru Nishizaki, Public Works Research Institute, Ibaraki, Japan; and **Pierre Labossiere** and **Bodgan Sarsaniuc**, University of Sherbrooke

Residual Tensile Strength of GFRP Bars Subjected to Sustained Loading in Concrete Beams **10:45 am**
Charles E. Bakis, Professor, Department of Engineering Science and Mechanics, Pennsylvania State University, University Park, PA; and **Thomas E. Boothby**, **R. A. Schaut**, and **C. G. Pantano**, Pennsylvania State University

Performance of Corrosion-Damaged RC Columns Repaired by CFRP Sheets **11:10 am**
Sang-Wook Bae, Post-Doctoral Research Fellow, Department of Civil, Architectural, and Environmental Engineering, University of Missouri-Rolla, Rolla, MO; and **Abdeldjelil Belarbi** and **John J. Myers**, University of Missouri-Rolla

Fracture Mechanics Approach for Interface Durability Evaluation of Surface Bonded FRP to Concrete **11:35 am**
Julio F. Davalos, Benedum Distinguished Teaching Professor, Department of Civil and Environmental Engineering, West Virginia University, Morgantown, WV; **Shilpa Kodkani**, **Rummel Klepper**, and **Kahl Indrajit Ray**, West Virginia University; and **David M. Boyajian**, University of North Carolina at Charlotte

Wednesday, November 9, 2005
9:00 am – 12:00 pm

★ Implementation of High-Performance Concrete in Bridge Design **C-4204B**

Sponsored by Committee 343

Session Co-Moderators: Om P. Dixit
Vice President
DMJM Harris, Inc.
New Orleans, LA

Bruce C. Kates
Structural Section Manager
Jacobs Civil, Inc.
St. Louis, MO

Introduction **9:00 am**
Om P. Dixit, Vice President, DMJM Harris, Inc., New Orleans, LA

HPC for Bridges—An Overview **9:05 am**
Shrinivas B. Bhide, Bridge Program Manager, Portland Cement Association, Skokie, IL

Specifying and Constructing HPC Bridge Decks on the I-99 Corridor and Beyond **9:35 am**
Paul J. Tikalsky, Deputy Director, Pennsylvania Transportation Institute, University Park, PA

Implementation of HPC in Bridge Structures in Virginia **10:05 am**
H. Celik Ozyildirim, Principal Research Scientist, Virginia Transportation Research Council, Charlottesville, VA

HPC Design Implementation in Bridges **10:35 am**
Maher H. Tadros, Charles J. Vranek Professor of Civil Engineering, Department of Civil Engineering, University of Nebraska-Lincoln, Lincoln, NE; and **Amgar M. Girgis**, University of Nebraska-Lincoln

Implementation of HPC in Louisiana Bridge Structures **11:05 am**
John J. Roller, Principal Structural Engineer, CTLGroup, Chicago, IL

Practical Application of High-Performance/Low Permeability Concrete on Bridges in Pennsylvania **11:35 am**
David G. Tepke, Graduate Assistant, Pennsylvania Transportation Institute, University Park, PA

Wednesday, November 9, 2005
9:00 am – 12:00 pm

Innovative Practical Applications and Automation **C-4202A**

Sponsored by Committee 118

Session Co-Moderators: Larry D. Church
Senior Project Manager
Walker Parking Consultants
Elgin, IL

Waseem DeKelbab
Project Engineer
TNO-DIANA North America
Livonia, MI

Introduction **9:00 am**
Larry D. Church, Senior Project Manager, Walker Parking Consultants, Elgin, IL

Automation of Data Collection **9:05 am**
Ryan Riehle, President, BuildWays Corp., Pittsburgh, PA

Advanced Concrete Modeling for Structural Design and Assessment **9:35 am**
Waseem DeKelbab, Project Engineer, TNO-DIANA North America, Livonia, MI

Concrete in the Age of Google **10:05 am**
Richard Wiles, Information Solutions Consultant, Cemex, Houston, TX

Optimizing Concrete for Structural Applications **10:35 am**
Jeffrey Bullard, Materials and Construction Research Division, Building and Fire Research Laboratory, National Institute of Standards and Technology, Gaithersburg, MD

Computerized Process Control for Concrete Materials **11:05 am**
James Shilstone, Jr., President, Shilstone Companies, Inc., Dallas, TX

Predicting Shear Cracking Using Neural and Fuzzy Systems **11:35 am**
R. El Tahawy, MSc Student, Department of Civil Engineering, University of New Mexico, Albuquerque, NM; **Mahmoud M. Reda Taha**, University of New Mexico; and **Alaa G. Sherif**, Helwan University

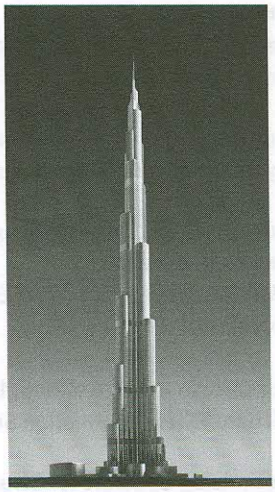
Wednesday, November 9, 2005
12:00 pm – 2:00 pm

✓International Luncheon **C-2215C**
$54 U.S. per person

Hosted by the International Committee

Speaker: **William F. Baker**
Partner, Structural and Civil Engineering
Skidmore, Owings & Merrill LLP
Chicago, IL

Topic: **Uniqueness of the Burj Dubai—Design to Construction**



At over 2000 feet high and located in the United Arab Emirates, the Burj Dubai (Tower Dubai) will be the world's tallest structure when completed. The final height of this super skyscraper will certainly exceed the current record holder–the 1671 ft. tall Taipei 101 building. Construction of the tower commenced in the fall of 2003, and is scheduled to be completed in 2008. The 3,000,000 sq. ft. building will include residential, commercial, hotel, entertainment, and retail facilities.

The reinforced concrete tower has a "Y" shape to dramatically reduce the wind forces on the tower, keeping the structure simple and fostering constructibility. The Y-shaped floor plan also maximizes views of the Arabian Gulf. As the principal structural designer, Mr. Baker will discuss many unique challenges of the design and construction of the Burj Dubai.

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

✓Separate fee required

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

Advances in Concrete Using Slag Cement **C-4202A**

Sponsored by Committee 233

Session Co-Moderators: Russell T. Flynn
Director of Technical and Marketing Services
Florida Rock Industries
Palmetto, FL

Darrell F. Elliot
Technical Services Manager
Buzzi Unicem USA
New Orleans, LA

Introduction **2:00 pm**
Russell T. Flynn, Director of Technical and Marketing Services, Florida Rock Industries, Palmetto, FL

Optimization of Slag Cement Mixtures for Sulfate Resistance **2:05 pm**
R. Doug Hooton, Professor, Department of Civil Engineering, University of Toronto, Toronto, Ontario, Canada; and **Guy Detwiler** and **Robert F. Pugh**, Lehigh Cement Co.

Mechanical Properties of Concrete Containing Slag Cement and Fly Ash **2:35 pm**
W. Micah Hale, Assistant Professor, Department of Civil Engineering, University of Arkansas, Fayetteville, AR; and **Natalie K. Peterson**, University of Arkansas

Laboratory Study on Evaluating Properties of Slag Cement-Based Ternary Cements for Use as High-Performance Concrete in Bridges **3:05 pm**
Prasad R. Rangaraju, Assistant Professor, Department of Civil Engineering, Clemson University, Clemson, SC; and **Jan Olek**, Purdue University

Stabilization/Solidification of Hazardous Waste with Alkali-Activated Slag Cement **3:35 pm**
Caijun Shi, President, CJS Technology, Inc., Burlington, Ontario, Canada

Feasibility of Slag Cement in Soil Stabilization **4:05 pm**
Tim Cost, Senior Technical Service Engineer, Holcim (US), Inc., Canton, MS

Very High Water-Cement Ratio Slag Cement Suspensions in Geotechnical Construction and Environmental Remedial Applications **4:35 pm**
Gilbert R. Tallard, President, Liquid Earth Support, Inc., Pelham, New York

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

International Session: Textile-Reinforced Concrete (TRC)—The International Experience **C-4204A**

Sponsored by Committee 549

Session Moderator: Ashish Dubey
Senior Member Technical Staff
United States Gypsum Corp.
Libertyville, IL

Introduction **2:00 pm**
Ashish Dubey, Senior Member Technical Staff, United States Gypsum Corp., Libertyville, IL

Development of Fabric-Reinforced Cement Composites for Repair and Retrofit Applications **2:05 pm**
Barzin Mobasher, Professor, Department of Civil and Environmental Engineering, Arizona State University, Tempe, AZ; **N. Singla**, Arizona State University; and **Corina Aldea**, Saint Gobain Technical Fabrics

Ferrocement Versus Thin Textile-Reinforced Cementitious Systems **2:30 pm**
Antoine E. Naaman, Professor, Department of Civil and Environmental Engineering, University of Michigan, Ann Arbor, MI

Integrated Formwork Elements Made of Textile-Reinforced Concrete **2:55 pm**
Wolfgang Brameshubey, Professor, RWTH Aachen, Aachen, Germany; and **M. Koster**, RWTH Aachen

Fire Resistance of Textile-Reinforced Concrete **3:25 pm**
Hans W. Reinhardt, Professor, Chair and Director, Department of Construction Materials, University of Stuttgart, Stuttgart, Germany

Mechanical Behavior of Textile-Reinforced Concrete **3:50 pm**
Jan Wastiels, Professor, Department of Mechanics of Materials and Construction, Vrije University Brussels, Brussels, Belgium

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

International Session: Textile-Reinforced Concrete (TRC)—The International Experience—continued C-4204A

Effects of Processing Parameters on Mechanical Properties of Textile-Reinforced Concrete 4:15 pm
Barzin Mobasher, Professor, Department of Civil and Environmental Engineering, Arizona State University, Tempe, AZ; and **Alva Peled**, Ben-Gurion University

Size Effect in Tensile and Flexural Performance of Fine-Grained Concrete Used as Matrix for Textile-Reinforced Concrete 4:40 pm
Wolfgang Brameshubey, Professor, RWTH Aachen, Aachen, Germany; and **Tanja Brockmann**, RWTH Aachen

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

Self-Consolidating Concrete Applications and Reviewing the Emerging Technologies **C-4203A**

Sponsored by Committee 237

Session Co-Moderators: Gary F. Knight
Technical Service Engineer
Holcim, Inc. (US)
Duluth, GA

Charles R. Cornman
Director of Research
W.R. Grace & Co.
Cambridge, MA

Introduction **2:00 pm**
Gary F. Knight, Technical Service Engineer, Holcim, Inc. (US), Duluth, GA

ASTM Update on Approval of SCC Testing Methods **2:05 pm**
Martin Vachon, Director of Technology, Axim Italcementi Group, Middlebranch, OH

Reviewing the Emerging Technologies Document on SCC **2:35 pm**
Joseph A. Daczko, Research Manager, Degussa Admixtures, Inc., Cleveland, OH

SCC at the Citadel **3:05 pm**
Godwin Q. Amekuedi, Director, Corporate Quality/Technology, Ready Mixed Concrete Co., Raleigh, NC

SCC and the New Atlanta Aquarium **3:35 pm**
Kirk K. Deadrick, Director of Quality Assurance, Lafarge North America, Alpharetta, GA

SCC Use in Lightweight Precast Concrete Projects **4:05 pm**
Jody Wall, Director of Technical Services, Carolina Stalite Co., Gold Hill, NC

Fine Aggregate Options for SCC **4:35 pm**
Don Powell, Technical Director, Vulcan Materials Co., Birmingham, AL

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

Advances in Offshore and Marine Concrete **C-4203B**

Sponsored by Committee 357

Session Moderator: George C. Hoff
President
Hoff Consulting, Inc.
Clinton, MS

Introduction **2:00 pm**
George C. Hoff, President, Hoff Consulting, Inc., Clinton, MS

ACI Committee 357, Offshore and Marine Concrete State-of-the-Art Report **2:05 pm**
Michael Garlich, Vice President, Collins Engineers, Inc., Chicago, IL

Durability of Marine Concrete **2:35 pm**
Thomas E. Spencer, Structural Engineer, Blaylock Engineering Group, San Diego, CA

Strut-and-Tie Models Applied to D-Regions of Concrete Marine Structures **3:05 pm**
Karl-Heinz Reineck, Professor, Institute for Lightweight Structures Conceptual and Structural Design, University of Stuttgart, Stuttgart, Germany

Innovative Applications for Float-In Technologies in Marine Structures **3:35 pm**
Samuel X. Yao, Project Manager, Ben C. Gerwick, Inc., San Francisco, CA

Floating, Modular, Concrete Pier—Testing of New Pier Type that Could be the Future Wave of Navy Piers **4:05 pm**
Markus Wernli, Project Engineer, Berger/ABAM Engineers, Inc., Federal Way, WA; and **Kare Hjorteset**, **Mike Lanier**, and **Manfred H. Zinserling**, Berger/ABAM Engineers, Inc.

Floating Concrete Barge for Liquefied Natural Gas (LNG) Storage and Re-Gasification **4:35 pm**
Kare Hjorteset, Project Manager, Berger/ABAM Engineers, Inc., Federal Way, WA; **Mike Lanier**, **Manfred H. Zinserling**, and **Markus Wernli**, Berger/ABAM Engineers, Inc.; and **Brad Hubbard**, Mustang Engineering

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

Design and Construction of Hybrid Structures **C-4204B**

Sponsored by Committee 335

Session Co-Moderators: Guillermo Ramirez
Assistant Professor
Department of Civil and Environmental Engineering
University of Texas at Arlington
Arlington, TX

Paul H. Ziehl
Assistant Professor
Department of Civil and Environmental Engineering
University of South Carolina
Columbia, SC

Introduction **2:00 pm**
Guillermo Ramirez, Assistant Professor, Department of Civil and Environmental Engineering, University of Texas at Arlington, Arlington, TX

Seismic Behavior and Design of High-Strength CFT MRFs **2:05 pm**
Amit H. Varma, Assistant Professor, School of Civil Engineering, Purdue University, West Lafayette, IN

Prestressed Concrete Box Girders with Corrugated Steel Webs **2:40 pm**
Yi-Lung Mo, Professor, Department of Civil and Environmental Engineering, University of Houston, Houston, TX

Overview of Design of Coupled Core Walls with Conventional or Innovative Systems **3:15 pm**
Patrick J. Fortney, Project Structural Engineer, Dekker/Perich/Sabatini, Ltd., Albuquerque, NM; **Kent A. Harries**, University of Pittsburgh; and **Bahram M. Shahrooz**, University of Cincinnati

Evaluation of Effective Width in Hybrid RCS Connections **3:50 pm**
Gustavo J. Parra-Montesinos, Assistant Professor, Department of Civil and Environmental Engineering, University of Michigan, Ann Arbor, MI

Wednesday, November 9, 2005
2:00 pm – 5:00 pm

Design and Construction of Hybrid Structures—continued C-4204B

Innovative Prefabricated Steel Reinforcement for Concrete Structural Members 4:25 pm

Halil Sezen, Assistant Professor, Department of Civil and Environmental Engineering, and Geodetic Science, Ohio State University, Columbus, OH; and **M. Shamsai**, Ohio State University

PDH Form for Sessions at the ACI Fall 2005 Convention

Professional Development Hours (PDHs) – If you registered for the convention and attended selected sessions, you can earn Professional Development Hours. For your records, use this convenient form between pages 150 and 151 to keep track of the activities you completed and the amount of credit you may have earned. Please do not return this form to ACI.

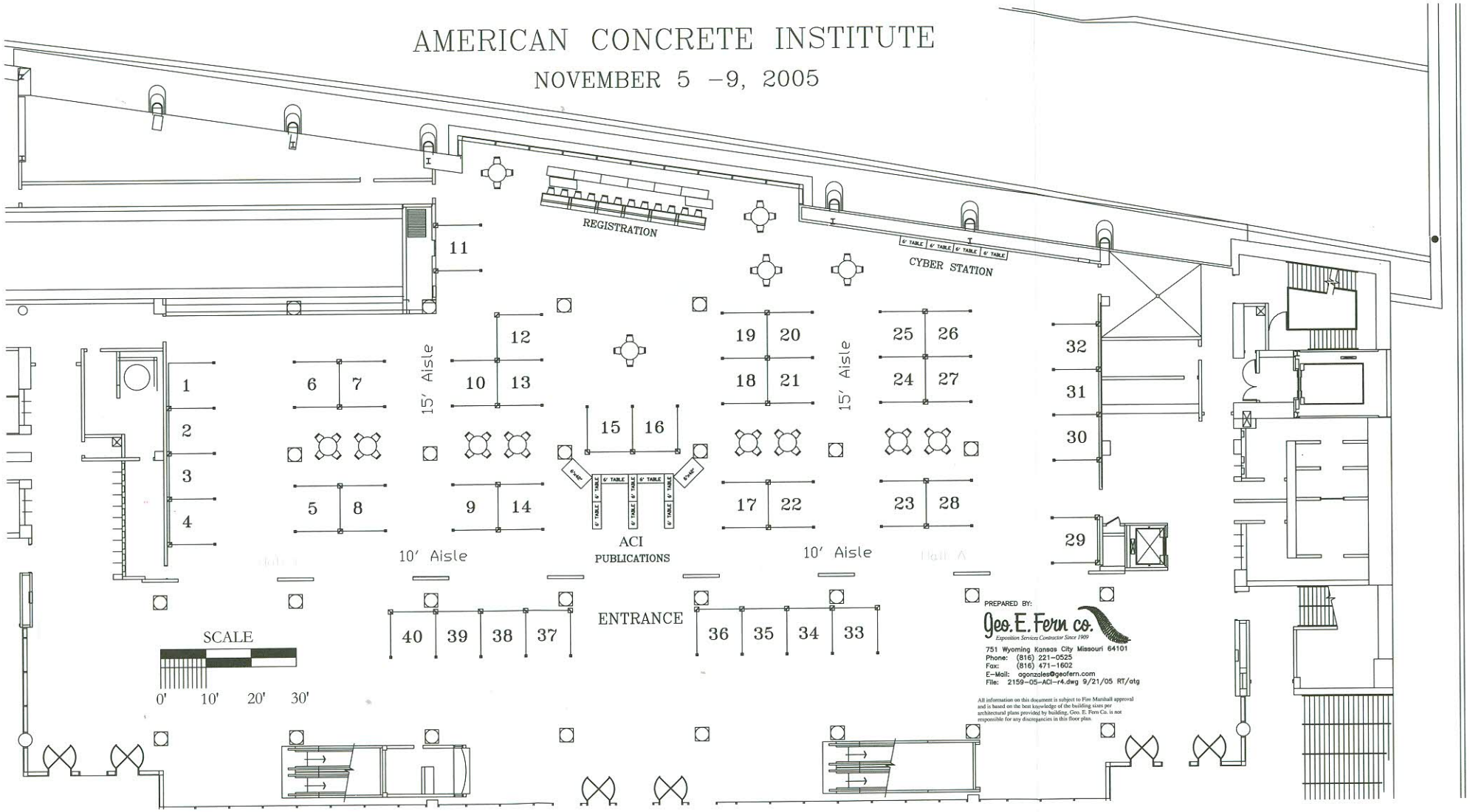
It is recommended that individuals contact their state boards of registration for detailed information regarding continuing education.

Instructions: Check off each session you attended and write in the number of PDH credits you may have earned for each day.

Remember that 1 PDH is equal to one contact hour of instruction or presentation, rounded down to the nearest half-hour.

AMERICAN CONCRETE INSTITUTE

NOVEMBER 5 –9, 2005



PREPARED BY:

Geo. E. Fern co.

Exposition Services Contractor Since 1909

751 Wyoming Kansas City Missouri 64101
Phone: (816) 221–0525
Fax: (816) 471–1602
E–Mail: ggonzales@geofern.com
File: 2159–05–ACI–r4.dwg 9/21/05 RT/atg

All information on this document is subject to Fire Marshall approval and is based on the best knowledge of the building sizes per architectural plans provided by building, Geo. E. Fern Co. is not responsible for any discrepancies in this floor plan.

PDH Form for Sessions at the ACI Fall 2005 Convention

Enter your name and address here:

SUNDAY, NOVEMBER 6, 2005

9:00 a.m.-Noon — **3 PDHs**

- ❑ Innovations in Mass Concrete (207)
- ❑ Introducing Concrete Aggregates (E 701)
- ❑ Recommendations for Load Test Magnitude and Acceptance Criteria for Strength Evaluation of Existing Concrete Buildings (437)
- ❑ *The Architect and Concrete—From Aesthetic Vision to Concrete Reality (124)
- ❑ Punching Shear in Reinforced Concrete Slabs, Part I (445)

2:00 p.m.-5:00 p.m. — **3 PDHs**

- ❑ Emerging Technologies in Civil Infrastructure Applications (TTTC)
- ❑ State-of-the-Art Practice in Health Monitoring Systems and Data Management for Infrastructure (444)
- ❑ *Spice Up Your Concrete with FRP Composites (440)
- ❑ Innovations in FRP Material Testing and Characterization (440)
- ❑ Punching Shear in Reinforced Concrete Slabs, Part II (445)

7:30 p.m.-10:00 p.m. — **2.5 PDHs**

- ❑ Hot Topic Session—Can Concrete Survive Blast and Fire? (Hot Topic Committee)

MONDAY, NOVEMBER 7, 2005

9:00 a.m.-Noon — **3 PDHs**

- ❑ Research in Progress (123)
- ❑ Ned H. Burns Symposium—Historic Innovations in Prestressed Concrete, Part I (423)
- ❑ *Silica Fume in Concrete—A Spice for Many Purposes, Part I (234)
- ❑ Strengthening of Existing Masonry Structures with FRP Systems (440)
- ❑ Bond of FRP Bars, Sheets, Laminates and Anchorages to Concrete (440)

2:00 p.m.-5:00 p.m. — **3 PDHs**

- ❑ *Silica Fume in Concrete—A Spice for Many Purposes, Part II (234)
- ❑ History of Concrete (120)
- ❑ Ned H. Burns Symposium—Historic Innovations in Prestressed Concrete, Part II (423)
- ❑ Strengthening of Existing Concrete Structures using FRP Systems, Part I (440)
- ❑ Serviceability of FRP Reinforced Concrete Structures (440)

7:30 p.m.-10:00 p.m. — **2.5 PDHs**

- ❑ 123 Forum— Should the Concrete Materials Specifications be Rewritten? (123)

TUESDAY, NOVEMBER 8, 2005

9:00 a.m.-Noon — **3 PDHs**

- ❑ Contractor's Day, Part I (Construction Liaison Committee)
- ❑ Impact of Rebar Constructibility on Project Performance (E 702 and 315-B)
- ❑ Strengthening of Existing Concrete Structures using FRP Systems, Part II (440)
- ❑ Design and Behavior of Concrete Members Internally Reinforced with FRP (440)

2:00 p.m.-5:00 p.m. — **3 PDHs**

- ❑ Contractor's Day, Part II (Construction Liaison Committee)
- ❑ Open Paper Session (123)
- ❑ Behavior of FRP Reinforced Concrete Columns (440)
- ❑ Field Applications of FRP Reinforced Concrete Structures (440)
- ❑ Full-Scale In-Situ Load Testing—Case Studies (437)

WEDNESDAY, NOVEMBER 9, 2005

9:00 a.m.-Noon — **3 PDHs**

- ❑ International Session: Textile Reinforced Concrete (TRC)—The German Experience (549)
- ❑ Effects of Extreme Events on FRP Reinforced Concrete Structures (440)
- ❑ Durability of FRP for Reinforced Concrete Structures (440)
- ❑ *Implementation of High-Performance Concrete in Bridge Design (343)
- ❑ Innovative Practical Applications and Automation (118)

2:00 p.m.-5:00 p.m. — **3 PDHs**

- ❑ Advances in Concrete Using Slag Cement (233)
- ❑ International Session: Textile Reinforced Concrete (TRC)—The International Experience (549)
- ❑ Self-Consolidating Concrete Applications and Reviewing the Emerging Technologies (237)
- ❑ Advances in Offshore and Marine Concrete (357)
- ❑ Design and Construction of Hybrid Structures (335) and New Jersey

Daily PDH Totals Available

Sunday, November 6, 2005	8.5	Total Completed on Sunday, November 6	____
Monday, November 7, 2005	8.5	Total Completed on Monday, November 7	____
Tuesday, November 8, 2005	6	Total Completed on Tuesday, November 8	____
Wednesday, November 9, 2005	6	Total Completed on Wednesday, November 9	____
Total PDHs Available	**29**	**Total Number of PDHs Completed**	____

Notes

ACI Board Committees and Chairs

Certification Programs	Peter M. Maloney
Chapter Activities	Andrea J. Schokker
Construction Liaison	Brad D. Inman
Convention	William E. Rushing, Jr.
Educational Activities	Paul J. Tikalsky
Financial Advisory	Richard D. Stehly
Honors & Awards	Terence C. Holland
Information Technology Advisory	Per Fidjestøl
International	Luke M. Snell
Marketing	Anne M. Ellis
Membership	George R. Wargo
Publications	Bruce W. Russell
Responsibility in Conc Constr	Jon Mullarky
Standards Board	Jo Coke
Technical Activities	Sharon L. Wood

Convention Committee

William E. Rushing, Jr., Chair
Thomas G. Ali
T. Michael Baseheart
Richard P. Bohan
Dean A. Browning
Calvin R. Cannon
David L. Hollingsworth
John C. Hukey
LaGrit F. (Sam) Morris
Debrethann R. Orsak
Aimee Pergalsky
Margaret H. Reed
Paul J. Tikalsky
Timothy S. Vaughan
Sharon L. Wood
Kari L. Yuers
Staff Liaison: Renee J. Lewis

Future Conventions

Spring 2006
Bridging the Carolinas—
Fast Track Innovations
March 26-30, 2006
Westin, Hilton & Charlotte
Convention Center
Charlotte, NC

Fall 2006
Colorful Colorado Concrete
November 5-9, 2006
Adams Mark
Denver, CO

Spring 2007
Hardscape
April 22-26, 2007
Hilton
Atlanta, GA

Thank you for attending the ACI Fall 2005 Convention! See you in Charlotte!

American Concrete Institute®
Advancing concrete knowledge

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