



THEME:
Innovative Concrete

NOVEMBER 5-10, 1995
Bonaventure Hilton & Radisson
Gouverneurs Montréal, Québec



Post Convention Meeting
Québec City, Québec
November 10-12, 1995

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The American Concrete Institute and the ACI Eastern Ontario and Québec Chapter deeply appreciate their support.

Note: These were the sponsors as of September 29, 1995. Please check the sign at the Registration Area for additional sponsors.

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Ville de Montréal

Hôtel de Ville
Cabinet du Comité exécutif


Bureau du maire

On behalf of all Montrealers, I would like to extend the warmest of welcomes to delegates and representatives of the American Concrete Institute. As you can see, Montréal is a modern city where concrete is widely used in buildings and infrastructures.

Montréal is proud of its prestigious buildings, such as the head office of IBM-Marathon, and other fine architectural achievements which rank among the most astounding works of art of our era. Included in that category is the Olympic Park, which houses the Olympic Stadium and the Biodôme, top-rated among the city's tourist attractions.

Montréal is hospitable city with charm and character. I do hope that you will find the time to discover its people, as well as the many attractions it has to offer, and that you will appreciate the city's unique architecture which combines old charm and the latest technologies and materials.

I thank you for having chosen Montréal as the site of your convention and I wish all delegates an enjoyable and most memorable stay.


Pierre Bourque
Mayor



CANADA

PRIME MINISTER · PREMIER MINISTRE

I am pleased to offer my warmest greetings to everyone participating in the annual congress of the American Concrete Institute, being held in Montréal.

The goals of this gathering are both timely and far-reaching; the discussions and many activities which are planned will benefit greatly from your input and expertise. I am certain every effort has been made to ensure the success of your meeting. Not only Montréal but, indeed, all of Canada is delighted to welcome you.

Please accept my best wishes for a most enjoyable and informative week of deliberations.

A handwritten signature in cursive script that reads "Jean Chrétien".

OTTAWA
1995



GOUVERNEMENT DU QUÉBEC

LE PREMIER MINISTRE

Mesdames, Messieurs les congressistes,

Au nom des Québécoises et des Québécois, je vous souhaite la bienvenue à Montréal.

Au cours de votre séjour, je vous invite à visiter Montréal et ses alentours. Vous y trouverez des attractions pour tous les goûts : spectacles, pièces de théâtre, musées, expositions... Je vous invite également à profiter des innombrables restaurants qui vous proposent des cuisines du monde entier.

Lors de votre séjour, vous serez plongés dans une ambiance francophone qui se caractérise par la joie de vivre. Vous découvrirez une culture différente, solide et résistante... comme le béton.



Jacques Parizeau

Dear Delegates,

On behalf of all Quebecers, I take pleasure in welcoming you to Montréal.

During your stay, I cordially invite you to visit Montréal and the surrounding area. You will discover a wide range of shows, plays, museums and exhibitions to satisfy every taste. I also encourage you to sample the city's numerous restaurants, which propose culinary delights from around the world.

Quebecers are noted for their "joie de vivre". Their culture is unique and durable.

Yours truly,



Jacques Parizeau

**Members and friends of the
American Concrete Institute:**



Welcome to Montréal, one of North America's most stimulating, interesting cities, and to another memorable ACI convention.

Convention week provides us with another opportunity to acquire the knowledge necessary to keep abreast of current technology relating to concrete. But it is also a time to relax, enjoy the sights and surroundings, and to meet friends, old and new.

The theme for this meeting, ACI's first in Montréal in nearly 40 years, is "Innovative Concrete," a topic of immense interest to all of us who recognize the paramount need for concrete to maintain its competitive status with other building materials.

As always, this will be a busy week -- committee meetings, technical sessions, symposia and forums, the General Session, the Concrete Mixer and other social gatherings, sightseeing tours -- such events make for a crowded agenda and a hectic five or six days for us all. But that's the way it should be -- a great learning experience and another memorable ACI convention.

We hope you will enjoy this gathering in Montréal and can make the post-convention weekend trip with us to neighboring Québec City. The host committee and ACI's officers and staff will be available for assistance if such is needed during these convention events.

Marilyn and I look forward to greeting each of you personally and you have only to ask if we can be of help.

Enjoy!

A handwritten signature in cursive script that reads "Robert F. Mast". The signature is written in black ink and has a long horizontal stroke at the end.

Robert F. Mast
President
American Concrete Institute

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ACI FALL CONVENTION

November 5-10, 1995

Montréal, Québec

Theme: INNOVATIVE CONCRETE

Post Convention Meeting

November 11-12, 1995

Québec City, Québec

*Theme: HISTORICAL QUEBEC CITY AND
MATERIAL TECHNOLOGY*

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GENERAL INFORMATION

CONVENTION REGISTRATION INFORMATION

The ACI staff is eager to answer any questions you may have pertaining to the convention. Our Registration Desk in the Radisson Gouverneurs is open to serve you during the following hours:

Saturday	1:00 PM - 5:00 PM
Sunday	10:00 AM - 5:00 PM
Monday	7:30 AM - 5:00 PM
Tuesday	8:00 AM - 5:00 PM
Wednesday	8:00 AM - 5:00 PM
Thursday	8:00 AM - 5:00 PM

SEMINAR REGISTRATION

Outremont Room - Hilton

Saturday, November 4. . . . 8:00 AM - 9:30 AM

BADGES

Wear your badge on the right side at all times. (In shaking hands, the eyes normally fall at the shoulder level on the right side of the individual being greeted.) The convention badges are color coded for identification as follows:

Member:	White	Student:	Blue
Nonmember:	Peach	Guest:	Beige
Fellow:	White		

Note: Badges will be required to attend all social events.

Flash photography can be disturbing to other attendees. Please refrain from this activity during sessions.

The **Speaker Ready Room** is located in the Radisson Gouverneurs - Bonsecours Room.

Moving Heavy Boxes: Should you require assistance moving papers or other materials between hotels, the bell staff can assist you. You may, however, encounter some difficulty in moving heavy boxes between the Hilton and the Radisson because bell staff are not obligated to perform this function and are not covered by hotel insurance once they are outside hotel property.

Suggested Attire: For meetings, business attire. For the Concrete Mixer, business attire and for other evening social events, business or evening attire.

ATTENTION STUDENTS! LEGAL DRINKING AGE IS 18. If you attend social events and you have not reached legal drinking age, please do not request any alcoholic beverages.

WHERE'S THAT MEETING ROOM?

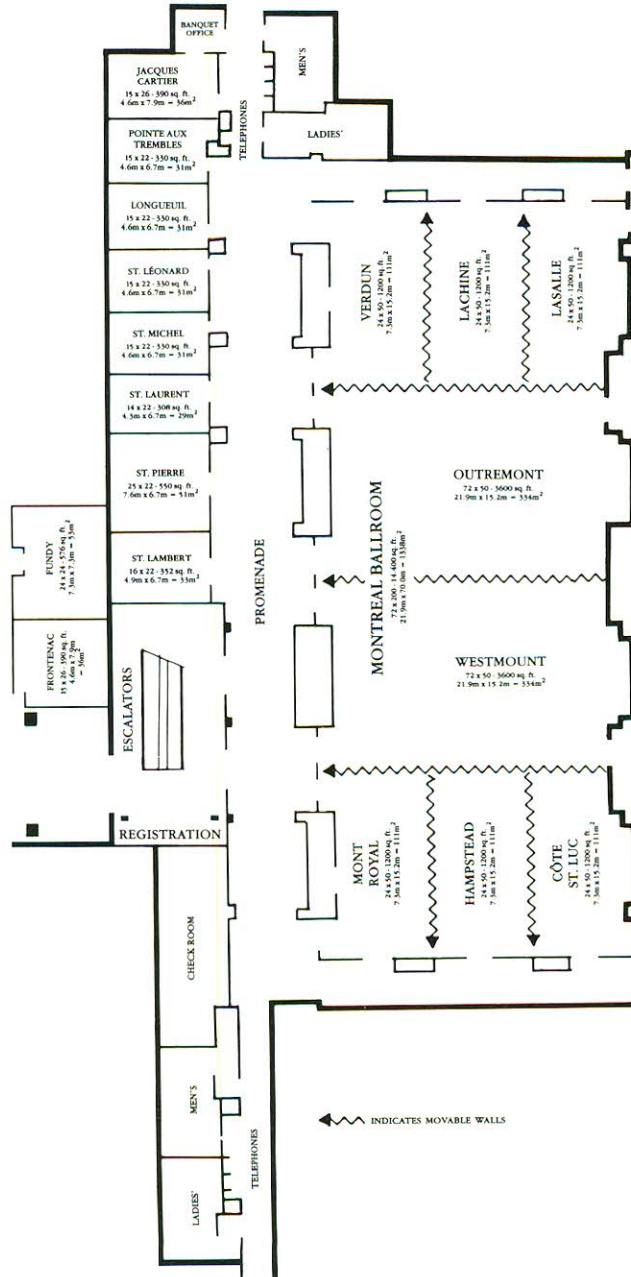
Hilton

Cartier - Lower Lobby
Côte St. Luc - Lower Lobby
Frontenac - Lower Lobby
Fundy - Lower Lobby
Hampstead - Lower Lobby
Lachine - Lower Lobby
Lasalle - Lower Lobby
Longueuil - Lower Lobby
Mont Royal - Lower Lobby
Outremont - Lower Lobby
Portage - Lobby Level
Promenade - Lower Lobby
St. Lambert - Lower Lobby
St. Laurent - Lower Lobby
St. Leonard - Lower Lobby
St. Michel - Lower Lobby
St. Pierre - Lower Lobby
Trembles - Lower Lobby
Verdun - Lower Lobby
Westmount - Lower Lobby

Radisson

Auditorium - Mezzanine
Bonsecours - Level C
Cartier A - Level C
Cartier B - Level C
Les Courants - Mezzanine
Regency A - Level C
Regency B - Level C
Regency C - Level C
Royer - Level C
Salon 518-4 - 5th Floor
Salon 520-5 - 5th Floor
Salon 522-6 - 5th Floor
Salon 528-3 - 5th Floor
Salon 530-2 - 5th Floor
Salon 532-1 - 5th Floor
St. Charles - Mezzanine
St. Laurent - Mezzanine
Versailles - Level C1
Victoria - Level C1
Verriere A - Mezzanine
Verriere B - Mezzanine
Vitre - Level C

Convention and Conference Facilities



Bonaventure
Hilton International

SPECIAL EVENTS

**SUNDAY, NOVEMBER 5
BREAKING THE ICE DINNER**

**HILTON
Westmount
7:00 PM**

Join our host chapter, colleagues and old and new friends for dinner at the Bonaventure Hilton. (**\$32.00 US/person**)

MONDAY THROUGH WEDNESDAY

COFFEE BAR 8:00 AM - 10:00 AM

Join your colleagues for a little socializing before your morning meetings begin. Coffee will be available in the foyers of both the Hilton and the Radisson.

**MONDAY, NOVEMBER 6
STUDENT'S DAY LUNCHEON**

**HILTON
Outremont
NOON - 2:00 PM**

Encourage student participation in ACI! Join students and ACI convention attendees for lunch. Pierre-Claude Aitcin will be discussing "New Applications of High-Performance Concrete". See page 66 for more details. Please purchase tickets by NOON on Sunday, November 5. (**\$15.00 US/person**)

**MONDAY, NOVEMBER 6
WOMEN OF ACI**

**RADISSON
5:00 PM - 6:30 PM**

This less-than-formal social event is a means for ACI women to network and get to know each other better, in an environment that is less structured than comm-itee meetings and less populous than mixers. We will meet for soft drinks or wine, nibbles and camaraderie. It is free to anyone who wishes to attend. Bring your business cards. Check at the Registration Desk for the room number.

INCOMING CHAIRMAN TRAINING

By Invitation Only

Monday, November 6

Outremont

7:00 AM - 8:30 AM

**TUESDAY, NOVEMBER 7
CONTRACTORS' DAY**

**HILTON
Westmount
NOON - 2:00 PM**

Join us for lunch. A speaker from the Canadian Highways International Corporation will be discussing "Toll Highway 407 Project". See pages 94, 95 and 102 for details. Please purchase your tickets by 10:00 AM on Monday, November 6. (**\$20.00 US/person**)

GUEST PROGRAM

REGISTRATION HOURS: SEE PAGE 14.

GUEST HOSPITALITY

Monday
8:00 AM - 11:00 AM

**Radisson
Regency C**

Tuesday & Wednesday
8:00 AM - 11:00 AM

**Radisson
Tour de Ville**

Thursday
8:00 AM - 11:00 AM

**Radisson
La Terrasse**

SUNDAY, NOVEMBER 5

**FIELD TRIP: HISTORICAL CONCRETE
STRUCTURES IN MONTRÉAL**
10:00 AM - 3:00 PM

Join your colleagues for an educational and enjoyable trip to view the historical concrete structures. Highlights include the Canada Cement Co. building, the Habitat 67 (World's Fair experimental housing), the Barwick Building (1905), Olympic Stadium, the Champlain Bridge, the Victoria Square building, the Unity Building using the Turner system (1912) and lunch at Les Primeurs in the restored, historic Rasco Hotel. **\$27 US per person**

MENU

Choices include:
Creme of Vegetables or Tossed Salad
Turkey Roast with Mushroom Sauce,
Linguini Carbonara, or Toulouse Sausage
with Mustard Sauce
Compote de Pommes or Caramel Puffs



Tour buses for the guest tours will depart from the Radisson Gouverneurs Hotel on Rue St. Jacques at University Street.

GUEST PROGRAM

SUNDAY, NOVEMBER 5

BREAKING THE ICE...

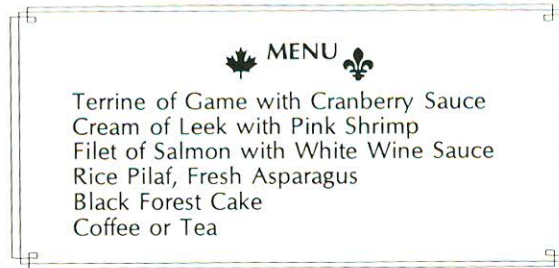
7:00 PM - Cash Bar

7:30 PM - Dinner

**Hilton
Outremont**

Break the ice at the Bonaventure Hilton. Enjoy seeing old friends and colleagues and meeting new people. Along with good company, enjoy a nice dinner.

\$32 US per person



MONDAY, NOVEMBER 6

OVERVIEW OF EVENTS

10:00 AM

**Radisson
Regency C**

Attend a presentation that will give you an overview of the week's activities in Montréal and the post-convention trip in Québec City.

GRAND MONTRÉAL CITY TOUR

11:30 AM - 2:45 PM

Tucked between the St. Lawrence River and Mount-Royal, Montréal is the second largest French-speaking city in the world. Montréal will truly enchant you with its combination of old world charm and modern urban architecture and its unique blend of French and English cultures. Your tour will include a visit to the historic Notre-Dame Basilica; a drive through the financial district, the residential areas nestled on the flanks of Mount-Royal, the University of Montréal and McGill University, and so much more. Lunch will be on your own in Outremont, an area which includes trendy boutiques and lovely cafés. **\$16 US per person**

GUEST PROGRAM

MONDAY, NOVEMBER 6

AFTERNOON TEA
3:00 PM - 5:00 PM

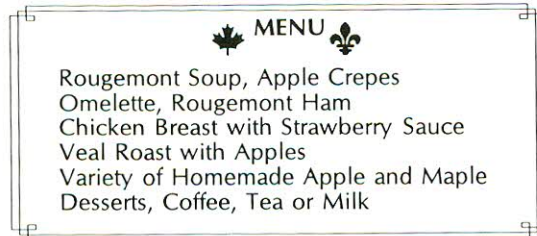
Hilton
Suite 2414

Take this opportunity to meet the wife of our new President, Marilyn Lamont, and enjoy a taste of local pastries and other refreshments.

TUESDAY, NOVEMBER 7

GOURMET TOUR IN ROUGEMONT/LES POMMES
9:30 AM - 12:45 PM

Enjoy the ride through the old country of rural Québec. Your tour guide will describe the colorful history. Upon your arrival, visit the "Vergers d'Emilie" apple orchards and view the demonstrations of the production of jams, juices, syrups and sauces. Sample fresh cider from the Michel Jodoin Cider Factory, which is made by the same method as used for champagne production. **\$36 US per person**



OLYMPIC PARK AND BIODOME
1:00 PM - 5:00 PM

A motorcoach ride east on Sherbrooke Street takes you through one of Montréal's oldest and longest streets. Your tour guide will escort you to the Olympic Park which was the site of the 21st Olympic Games. Following the Olympic Park, enjoy a tour of the Biodome! Combining a zoological and botanical garden with an aquarium, this is the world's only international environmental museum. Four ecosystems of the American Continent are represented.

\$29 US per person

GUEST PROGRAM

WEDNESDAY, NOVEMBER 8

MONTRÉAL MUSEUM DAY

10:30 AM - 3:30 PM

Enjoy docent tours of Pointe-A-Callière (Museum of Archeology & History) and Musée D'Art Contemporain de Montréal in the heart of Old Montréal's historic sector. Then, enjoy lunch at L'Auberge Le Vieux St. Gabriel. It has been verified that the "Old St-Gabe" is North America's oldest inn. A walk through the restaurant is, in effect, a walk through a Montréal of long ago. Lunch will be followed by a visit to the contemporary museum, which contains over 3400 works, including Canadian and foreign artists, 8 exhibit galleries, and events and activities for all to enjoy.

\$39 US per person

MENU
Green Garden Salad with French Vinaigrette
Beef Bourguignon
White & Wild Rice, Broccoli
Chocolate Mousse Cake
Coffee or Tea
Cash Bar

CONCRETE MIXER RECEPTION

6:30 PM - 8:00 PM

Hilton

Montreal Ballroom

Join the ACI Eastern Ontario and Québec Chapter and your friends and colleagues for a get-together at the Hilton and enjoy some of the typical food of the region, known in Québec as "Cuisine Regionale". Hot and cold hors d'oeuvres to be served.

GUEST PROGRAM

THURSDAY, NOVEMBER 9

CATHEDRALS OF MONTRÉAL

9:00 AM - 2:00 PM

Concentrating on the churches, cathedrals and shrines of Montréal, you will see examples of various styles of architecture, from the modest beauty of Notre-Dame de Bonsecours, to the grand and ornate majesty of Mary Queen of the World, to the near gothic architecture of Christ Church Cathedral. Lunch will be served at Le Parchemin, which used to be the rectory of the Christ Church Cathedral. The tour also includes a visit to the world-renowned Shrine for Healing at the St. Joseph's Oratory. **\$31 US per person**



POST-CONVENTION GUEST PROGRAM

SATURDAY, NOVEMBER 11

GUEST TOUR OF MUSEUM URSULINES AND CHÂTEAU FRONTENAC

9:30 AM - 12:00 PM

Your first stop is the Museum Ursulines, which displays a collection illustrating life and education work of the Ursulines. Then, enjoy a guided tour of the hallways of the most photographed hotel in the world – Château Frontenac. **\$24 US per person**

GUEST PROGRAM

SATURDAY, NOVEMBER 11

ATTENDEES/GUEST LUNCHEON Québec Hilton
12:15 PM - 1:45 PM Le Panorama Room
Topic: "Culture of Old Québec" \$18 per person

MENU
Potage Crécy
Emince of Turkey Orleans with Cranberry Sauce
Mousseline Potatoes/Fresh Green Beans
"Plaisir des Iles"
Coffee or Tea

**FIELD TRIP AND CITY TOUR: HISTORICAL
QUÉBEC BUILDINGS AND FORTIFICATIONS**
2:00 PM - 5:30 PM

Enjoy the old city, its fortresses, historical buildings, the Museum of Civilization and Laval University. Tour guides and ACI members will discuss the history as well as renovations and construction on these historical structures. **\$20 US per person**

SUGARING-OFF PARTY
BUSES DEPART AT 6:45 PM

L'En-Tailleur is a typical maple farm, a historic attraction of Québec, located on picturesque Ile d'Orléans. Upon arrival, you will have the opportunity to enjoy a talk about the lumbermen, and a familiarization visit will explain the life of the first Canadians: Indians, trappers and lumberjacks. During and after dinner, enjoy folkloric animation and music. **\$35 US per person**

MENU
Pickled Vegetable Appetizers
French Pea Soup, Fèves au Lard
Tourtiere, Grilled Ham
Pommes de Terre, Vegetables
Country Style Bread
Traditional Maple Sugar Desserts
Cash Bar

GUEST PROGRAM

SUNDAY, NOVEMBER 12

MONTMORENCY FALLS/STE-ANNE DE BEAUPRÉ
1:00 PM - 5:00 PM

Our first stop is Montmorency Falls, where you will see falls with a 274 foot drop surrounded by a cloud of colorful mist. Take the cable car to the top of the falls and tour the Manoir Montmorency. Visit the magnificent Ste-Anne de Beaupré Shrine, built in 1923.
\$25 US per person

DINNER AT CAFÉ DE LA PAIX
7:00 PM

Take a taxi and meet your ACI friends at one of the most famous restaurants in Québec. Known for its cuisine and fine service, you can say farewell over a memorable meal. **\$30 US per person**

MENU

Appetizer: Trio of Smoked Fish

Choices include:

Soup de Jour or Consommé or Mixed Salad

Veal Medallions with Mushroom Sauce or

Filet Mignon Périgourdine

Seasonal Vegetables, Rice or Potatoes

Cake, Fruit Salad or Crème Caramel

POST-CONVENTION MEETING

MEETING AND EVENT SCHEDULE Québec Hilton Québec City, Québec

Friday, November 10

6:30 PM - WELCOME Le Panorama
8:00 PM RECEPTION

Saturday, November 11

9:00 AM - TECHNICAL
NOON SESSIONS:

Historical Québec: Porte
Buildings and Kent
Fortifications

Use of Polymers Porte
in Concrete Saint-Louis

9:30 AM - ● Guest Tour of Museum
NOON Ursulines and Chateau
Frontenac

12:15 PM - ● Attendees/
1:45 PM Guest Luncheon Le Panorama

2:00 PM - ● Field Trip
5:30 PM and City Tour

6:45 PM ● Sugaring- Off Party

Sunday, November 12

1:00 PM - ● Montmorency Falls/
5:00 PM Ste-Anne De Beaupré

7:00 PM ● Dinner at Café De La Paix

Registration Hours

Friday, November 10	2:00 PM - 6:00 PM
Saturday, November 11	8:00 AM - 2:00 PM
Sunday, November 12	11:00 AM - 1:00 PM

- SEPARATE FEE

DAILY EVENTS

[(M)=Meeting (SC)=Subcommittee (TG)=Task Group]

FRIDAY, NOVEMBER 3rd

7:00P-10:00P

TAC Technical Activities (M-1) Portage(H)

SATURDAY, NOVEMBER 4th

8:30A-5:00P

EAC Educational Activities (M-1) Salon 532-1(R)

8:30A-6:00P

TAC Technical Activities (M-2) Lasalle(H)

8:30A-5:00P

- Educational Seminar:
Troubleshooting Concrete
Construction Outremont(H)

NOON-1:00P

- Educational Seminar
Luncheon Portage(H)

2:00P-5:00P

359 Nuclear Vessels Lachine(H)

SUNDAY, NOVEMBER 5th

8:30A-10:00A

CLC Construction Liaison Cote St. Luc(H)

8:30A-11:30A

E801 Student Activities Committee Salon 532-1(R)
Ad Hoc Committee on
Online Electronic
Communications Salon 522-6(R)

8:30A-1:00P

349-3A Embedment Versailles(R)

8:30A-5:00P

350-1 Environmental Structures (M-1) St. Laurent(R)

8:30A-6:00P

TAC Review Group 1 Verdun(H)
TAC Review Group 2 Cartier(H)

- SEPARATE REGISTRATION FEE

SUNDAY

8:30A-6:00P

TAC	Review Group 3	Trembles(H)
TAC	Review Group 4	Longueuil(H)

10:00A-11:30A

364-1	General Requirements	Cote St. Luc(H)
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10:00A-1:00P

408	Bond and Development	Portage(H)
442	Lateral Forces	Mont Royal(H)

1:00P-5:00P SESSIONS

Recent Developments in Deflection Evaluation of Concrete Structures in Honor of Dan Branson	Regency A(R)
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Student Program and Competition	McGill University
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2:00P-3:30P

121	Quality Assurance	St. Lambert(H)
305	Hot Weather	Fundy(H)
364-3	Design	Cote St. Luc(H)
	Hot Topic Committee	Frontenac(H)
503-A	Polyurethanes	Vitre(R)

2:00P-5:00P

CPC	Certification Programs (M-1)	Salon 518-4(R)
SCO	Scholarship Council	Salon 520-5(R)
E701	Construction Materials	Salon 528-3(R)
201	Durability	Versailles(R)
225TG	Hydraulic Cements Task Group	Salon 530-2(R)
309	Consolidation	St. Leonard(H)
343	Bridge Design	Regency C(R)
355	Anchorage	Mont Royal(H)
364-4	Other Structures	Dollard(R)
369	Seismic Rehab	Verriere A(R)

2:00P-5:00P SESSIONS

Creep and Shrinkage of Concrete	La Salle/Lachine(H)
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High-Strength Concrete: Part I	Outremont(H)
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SUNDAY/MONDAY

2:00P-5:00P SESSIONS

Short Duration Dynamic
Loading Westmount(H)

State of the Art of Fiber
Reinforced Plastics in
Concrete Structures Regency B(R)

3:30P-5:00P

E705 Computer Activities Fundy(H)

549 Ferrocement St. Pierre(H)

552 Geotechnical Grouting St. Lambert(H)

Membership Committee Frontenac(H)

3:30P-6:30P

126-Ex Executive Subcommittee Salon 532-1(R)

227 Radioactive Hazardous
Waste Management Salon 522-6(R)

5:00P-6:30P

E905 Training Salon 528-3(R)

348 Safety Regency C(R)

364 Rehabilitation Cote St. Luc(H)

7:00P

- Breaking the Ice
Dinner Outremont/Westmount(H)

MONDAY, NOVEMBER 6th

7:00A-8:30A

Breakfast Training Session
Chairmen & Speakers Outremont(H)

TMC TAC Metrication Longueuil(H)

8:30A-10:00A

C601-P Plasterer Certification Salon 528-3(R)

118 Use of Computers Fundy(H)

213-B Lightweight/Parking Struct.
and Bridge Decks Vitre(R)

- SEPARATE FEE

MONDAY

8:30A-10:00A

213-C	By-Prod. Lightweight Aggregates	Les Courants(R)
325-32	Jointed Pavement	Trembles(H)
440-C	FRP - SOA Report	Frontenac(H)
446-3	Finite Element Analysis & Fracture	Salon 518-4(R)
504	Joint Sealants	Lachine(H)
544-A	Steel Fibers	St. Charles(R)
544-B	Glass Fibers	Salon 530-2(R)
	Ad Hoc on Student Activities	Salon 532-1(R)

8:30A-11:30A

E703	Construction Practices	St. Leonard(H)
212	Chemical Admixtures	Portage(H)
362-1	Document Review	Lasalle(H)
368	Earthquake Resistance	Verriere A(R)
445-1	State-of-the-Art Report	Salon 522-6(R)
515	Protective Systems	Victoria(R)
523	Cellular Concrete	Versailles(R)
546	Repair	St. Laurent(R)
548-E	Structural Design & Analysis	Verriere B(R)

8:30A-1:00P

209	Creep and Shrinkage	St. Lambert(H)
318	Building Code (M-1)	Regency B(R)
349-4	Repository Structures	Cartier A(R)
360-1	Slabs on Grade Sub	Longueuil(H)
543	Concrete Piles (M-1)	Cartier (H)
551	Tilt-Up Construction (M-1)	St. Pierre(H)

8:30A-5:00P

350	Environmental Structures (M-2)	Verdun(H)
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9:00A-NOON SESSIONS

Research in Progress Auditorium(R)

High-Strength Concrete: Part II Westmount(H)

Aspects of Blast
Resistant Design Mont Royal(H)

★ Composite and Hybrid
Construction: Part I Regency A(R)

10:00A-11:00A

GUEST OVERVIEW Regency C(R)

10:00A-11:30A

C601	New Programs	Salon 518-4(R)
C610	Field Technician	Salon 528-3(R)

★ THEME SESSION

MONDAY

2:00P-5:00P

231	Early Age	Verriere B(R)
358	Guideways	Salon 522-6(R)
441	Columns	Vitre(R)
533	Precast Panels	Trembles(H)
543	Concrete Piles (M-2)	Cartier(H)
551	Tilt-Up Construction (M-2)	St. Pierre(H)

2:00P-5:00P SESSIONS

The Analysis and Design
of Mat Foundations and
Combined Footings Mont Royal(H)

New Approaches to Parking
Structure Design and
Construction Lasalle(H)

High-Strength
Concrete: Part III Auditorium(R)

▲ HOT TOPIC:

Part I: Innovative and
Controversial Uses of Fly Ash
for Multiple Applications

Part II: The Oklahoma
Terrorist Bombing Regency A(R)

2:00P-6:30P

228	Nondestructive Testing	Victoria(R)
302	Construction of Floors	Regency C(R)
318-A	General Concrete Construction	Salon 530-2(R)
318-E	Shear and Torsion	Salon 528-3(R)
318-G	Prestressed Precast	Salon 518-4(R)
318-H	Seismic Provisions	St. Charles(R)
349-3B	Embedment	Verriere A(R)

3:30P-5:00P

211-C	No Slump	Longueuil(H)
349-2	Design	St. Lambert(H)
446	Fracture Mechanics	Les Courants(R)
544-G	Design & Structural Uses	Portage(H)
548-B	Polymer Concrete Overlays	St. Leonard(H)
558	Protective Coatings	Fundy(H)

3:30P-6:30P

440-F	Repair	Versailles(R)
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5:00P-6:30P

TCRC	TAC Construction Review	Salon 520-5(R)
116	Terminology and Notation	Fundy(H)
211-F	Mixture Submittal	Longueuil(H)
235	Knowledge Based Systems	Portage(H)

▲ HOT TOPIC

MONDAY/TUESDAY

5:00P-6:30P

544-Ex	Executive Subcommittee	Salon 522-6(R)
548-D	Sulfur Concrete	St. Leonard(H)

TUESDAY, NOVEMBER 7th

7:00A-8:30A

Breakfast Training Session for ACI Committee Chairs - By Invitation Only	Westmount(H)
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8:30A-10:00A

232	Fly Ash & Natural Pozzolans	Regency C(R)
330	Parking Lots	Fundy(H)
439-A	Wire Reinforcement	Versailles(R)

8:30A-11:30A

CAC	Chapter Activities	St. Pierre(H)
C620	Laboratory Technician	Trembles(H)
345	Bridge Construction	Vitre(R)
357	Offshore and Marine	Longueuil(H)
370	Dynamic & Vibratory Effects	Hampstead(H)
548	Polymers	Outremont(H)
550	Precast Concrete Structures Publications Committee	St. Laurent(R) St. Leonard(H)

8:30A-1:00P

EAC	Educational Activities (M-2)	Salon 532-1(R)
117	Tolerances	Portage(H)
318-B	Reinforcement and Development	Victoria (R)
318-C	Serviceability/Safety	Salon 528-3(R)
318-D	Flexure and Axial Loads	Salon 518-4(R)
318-F	Two-Way Slabs	Salon 520-5(R)
336	Footings	St. Charles(R)
360	Slabs on Grade	Verdun(H)
372	Circ. Prstd. Wire Wrap	Cartier(H)

9:00A-NOON SESSIONS

Databases and Knowledge Systems for Concrete and Related Materials	Verriere(R)
★ Innovative Lightweight Concrete Systems: Part I	LaSalle(H)
Predicting Remaining Service Life	Lachine(H)

★ THEME SESSION

TUESDAY

9:00A-NOON SESSIONS

- ★ Innovative Research in Earthquake Engineering Regency A(R)
- Contractors' Session: Part I Regency B(R)

10:00A-11:30A

- 332-TG Residential Task Group Frontenac(H)
- 439-B Reinforcement Mont Royal(H)

10:00A-1:00P

- 207 Mass Concrete Salon 522-6(R)
- 222 Corrosion Les Courants(R)
- 233 Ground Slag St. Lambert(H)
- 445 Shear and Torsion Versailles(R)
- 506 Shotcreting Cartier A(R)
- 544 Fiber Reinforced Regency C(R)

11:30A-1:00P

- 211-A Edit and Coordination Trembles(H)
- 306 Cold Weather St. Leonard(H)
- 439-C Reinforcement Mont Royal(H)

12:00N-2:00P

- Contractors' Day Luncheon Westmount(H)

2:00P-3:30P

- 210 Erosion/Hydraulic Structure Salon 532-1(R)
- 211-B Lightweight Trembles(H)
- 234 Silica Fume Portage(H)

2:00P-3:30P SESSION

- Educational Session - Part I: Realistic Capstone Design Courses Regency A(R)

2:00P-5:00P

- 216 Fire Resistance and Fire Protection of Structures St. Lambert(H)
- 224 Cracking Verdun(H)
- 303 Architectural Concrete St. Leonard(H)
- 347 Formwork St. Laurent(R)
- 349 Nuclear Structures Versailles(R)
- 440 Fiber Reinforced Plastic LaSalle(H)
- 503 Adhesives St. Charles(R)
- Convention Committee Fundy(H)

- SEPARATE FEE
- ★ THEME SESSION

TUESDAY/WEDNESDAY

2:00P-5:00P SESSIONS

Open Paper Session Auditorium(R)
(until 5:25 PM)

★ Innovative Lightweight
Concrete Systems: Part II Verriere(R)

Design in Regions of Low
and Moderate Seismicity Cartier A(R)

Contractors' Session: Part II Regency B(R)

2:00P-6:30P

318 Building Code (M-2) Regency C(R)
423 Prestressed Mont Royal(H)

3:30P-5:00P

126 Materials Database Longueuil(H)
C630 Construction Inspector Lachine(H)

3:30P-5:30P SESSION

Educational Session - Part II:
Report Writing Regency A(R)

3:30P-6:30P

335 Composite and Hybrid Structures St. Pierre(H)
342 Bridges & Bridge Elements Cartier(H)
439 Steel Reinforcement Outremont(H)

5:00P-6:30P

C630-T Transportation Inspector Lachine(H)
211-E Evaluation and Adjustment St. Leonard(R)
223 Shrinkage Compensating Conc. Portage(H)
365 Service Life St. Lambert(H)

7:30P-10:00P

Forum 123 - Industrial Support of
Concrete Research: Does It or
Should It Exist? Auditorium(R)

WEDNESDAY, NOVEMBER 8th

10:00A-1:00P

General Session Mont Royal(H)

1:00P-2:00P

Standards Board Trembles(H)

★ THEME SESSION

WEDNESDAY

2:00P-3:30P

120	History of Concrete	Versailles(R)
122	Energy Conservation	Salon 518-4(R)
351-2	Dynamics	Cartier(H)
531	Masonry Research	Salon 530-2(R)
555	Removal/Reuse of Concrete	Frontenac(H)
556	Demolition	Salon 520-5(R)

2:00P-5:00P

	ConREF	Salon 532-1(R)
CPC	Certification Programs(M-2)	Salon 522-6(R)
RCRC	Reinforced Concrete Res. Council	Victoria(R)
215	Fatigue	St. Leonard(H)
332	Residential	Cartier A(R)
341	Earthquake-Resistant Bridges	Les Courants(R)
350	Environmental Structures (M-3)	St. Laurent(R)
352	Joints	St. Lambert(H)
435	Deflection	Fundy(H)

2:00P-5:00P SESSIONS

- ★ Proportioning Concrete Using Unusual and Innovative Materials and Methods Auditorium(R)
- ★ Innovative Applications with Shrinkage-Compensating Concrete Regency C(R)
- ★ Composite and Hybrid Construction: Part II Regency A(R)
- Field Performance of Fiber Reinforced Concrete Structures Over 10 Years Old Verriere(R)
- ★ Innovative Concrete: Part I Regency B(R)

2:00P-6:30P

214	Strength Tests	St. Charles(R)
340	Design Aids	St. Pierre(H)
373	Cir. Prstd. Tendons	Salon 528-3(R)

- ★ THEME SESSION

WEDNESDAY/THURSDAY

3:30P-5:00P

229	Controlled Low-Strength	Versailles(R)
351	Equipment Foundations	Trembles(H)
524	Plastering	Salon 530-2(R)
555/556	Removal & Reuse/Demolition	Salon 520-5(R)

5:00P-6:30P

221	Aggregates	Fundy(H)
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6:30P-8:00P

Concrete Mixer	Montreal Ballroom(H)
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THURSDAY, NOVEMBER 9th

8:30A-10:00A

308S	Curing Concrete - Specifications	Versailles(R)
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8:30A-11:30A

CRC	Concrete Research Council	Portage(H)
421	Slabs	St. Lambert(H)
437	Strength Evaluation	Cartier(H)
444	Experimental Analysis	St. Leonard(H)

8:30A-1:00P

211	Proportioning	Outremont(H)
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8:30A-5:00P

301	Specifications	St. Charles(R)
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9:00A-NOON

Board of Direction (M-1)	Hampstead (H)
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9:00A-NOON SESSIONS

- ★ Innovations in Nondestructive Testing Lasalle(H)
- Controlled Low-Strength Materials Verdun(H)
- ★ New Approaches to Shear Design Lachine(H)
- ★ Innovative Concrete: Part II Regency B(R)

10:00A-11:30A

308R	Curing Concrete - SOA Report	Versailles(R)
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10:00A-1:00P

307	Chimneys (M-1)	St. Pierre(H)
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★ THEME SESSION

THURSDAY

11:30A-1:00P

123	Research	Salon 532-1(R)
308	Curing Concrete	Versailles(R)

2:00P-3:30P

363-1	High-Strength Subs	Portage(H)
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2:00P-5:00P

	Board of Direction (M-2)	Hampstead (H)
307	Chimneys (M-2)	St. Pierre(H)
371	Pedestal Water Towers	St. Lambert(H)

2:00P-5:00P SESSIONS

★ Innovative Technologies Auditorium(R)

Response of Concrete Bridges
During the Kobe and
Northridge Earthquake Verriere(R)

Concrete Instrumentation
and Experimental Techniques:
A State-of-the-Art Report Cartier A(R)

Cold Climate Challenges Regency B(R)

2:00P-6:30P

423-TG	Prestressed Task Group	St. Laurent(R)
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3:30P-6:30P

363	High-Strength	Portage(H)
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★ THEME SESSION

NUMERICAL COMMITTEE LISTING

(M) = Meeting (SC) = Subcommittee (TG) = Task Group

COMM.	COMMITTEE TITLE	DAY	TIME	ROOM/HOTEL
	Board of Direction (M-1)	THU	9:00A - Noon	Hampstead (H)
	Board of Direction (M-2)	THU	2:00P - 5:00P	Hampstead (H)
	Standards Board	WED	1:00P - 2:00P	Trembles (H)
	ConREF	WED	2:00P - 5:00P	Salon 532-1 (R)
	Convention Committee	TUE	2:00P - 5:00P	Fundy (H)
	Hot Topic Committee	SUN	2:00P - 3:30P	Frontenac (H)
	Membership Committee	SUN	3:30P - 5:00P	Frontenac (H)
	Ad Hoc Committee on Online Electronic Communications	SUN	8:30A -11:30A	Salon 522-6 (R)
	Publications Committee	TUE	8:30A -11:30A	St. Leonard (H)
	Ad Hoc on Student Activities	MON	8:30A -10:00A	Salon 532-1 (R)
CAC	Chapter Activities	TUE	8:30A -11:30A	St. Pierre (H)
CLC	Construction Liaison	SUN	8:30A -10:00A	Cote St. Luc (H)
CPC	Certification Programs (M-1)	SUN	2:00P - 5:00P	Salon 518-4 (R)
CPC	Certification Programs (M-2)	WED	2:00P - 5:00P	Salon 522-6 (R)
CRC	Concrete Research Council	THU	8:30A -11:30A	Portage (H)
C601	New Programs	MON	10:00A-11:30A	Salon 518-4 (R)
C601-P	Plasterer Certification	MON	8:30A -10:00A	Salon 528-3 (R)
C610	Field Technician	MON	10:00A-11:30A	Salon 528-3 (R)
C620	Laboratory Technician	TUE	8:30A -11:30A	Trembles (H)
C630	Construction Inspector	TUE	3:30P - 5:00P	Lachine (H)
C630-T	Transportation Inspector	TUE	5:00P - 6:30P	Lachine (H)
C640	Craftsman Certification	MON	11:30A- 1:00P	Salon 520-5 (R)
EAC	Educational Activities (M-1)	SAT	8:30A - 5:00P	Salon 532-1 (R)
EAC	Educational Activities (M-2)	TUE	8:30A - 1:00P	Salon 532-1 (R)
E701	Construction Materials	SUN	2:00P - 5:00P	Salon 528-3 (R)
E702	Designing Concrete Structures	MON	2:00P - 3:30P	Portage (H)
E703	Construction Practices	MON	8:30A -11:30A	St. Leonard (H)
E705	Computer Activities	SUN	3:30P - 5:00P	Fundy (H)

COMM.	COMMITTEE TITLE	DAY	TIME	ROOM/HOTEL
E801	Student Activities	SUN	8:30A -11:30A	Salon 532-1 (R)
E802	Teaching Methods & Materials	MON	11:30A- 1:00P	Salon 528-3 (R)
E903	Convention Training	MON	11:30A- 1:00P	Salon 530-2 (R)
E905	Training	SUN	5:00P - 6:30P	Salon 528-3 (R)
IAC	International Activities	MON	2:00P - 5:00P	Salon 532-1 (R)
IJBRC	International Joints & Bearings Research Council	MON	11:30A- 1:00P	Lachine (H)
RC	Responsibility	MON	2:00P - 5:00P	St. Laurent (R)
RCRC	Reinforced Concrete Research Council	WED	2:00P - 5:00P	Victoria (R)
SCO	Scholarship Council	SUN	2:00P - 5:00P	Salon 520-5 (R)
TAC	Technical Activities (M-1)	◆ FRI	7:00P -10:00P	Portage (H)
TAC	Technical Activities (M-2)	SAT	8:30A - 6:00P	Lasalle (H)
TAC	Review Group 1	SUN	8:30A - 6:00P	Verdun (H)
TAC	Review Group 2	SUN	8:30A - 6:00P	Cartier (H)
TAC	Review Group 3	SUN	8:30A - 6:00P	Trembles (H)
TAC	Review Group 4	SUN	8:30A - 6:00P	Longueuil (H)
TCRC	TAC Construction Review	MON	5:00P - 6:30P	Salon 520-5 (R)
THPC	TAC High Performance	MON	10:00A- 1:00P	St. Charles (R)
TMC	TAC Metrication	MON	7:00A - 8:30A	Longueuil (H)
TSC	Specifications	MON	2:00P - 5:00P	Frontenac (H)
TTT	Technology Transfer	MON	2:00P - 5:00P	Regency B (R)
116	Terminology and Notation	MON	5:00P - 6:30P	Fundy (H)
117	Tolerances	TUE	8:30A - 1:00P	Portage (H)
118	Use of Computers	MON	8:30A -10:00A	Fundy (H)
120	History of Concrete	WED	2:00P - 3:30P	Versailles (R)
121	Quality Assurance	SUN	2:00P - 3:30P	St. Lambert (H)
122	Energy Conservation	WED	2:00P - 3:30P	Salon 518-4 (R)
123	Research	THU	11:30A- 1:00P	Salon 532-1 (R)
124	Concrete Aesthetics	MON	11:30A- 1:00P	Salon 522-6 (R)
126	Materials Database	TUE	3:30P - 5:00P	Longueuil (H)
126-1	Materials Database Subs	MON	2:00P - 3:30P	Longueuil (H)
126-Ex	Executive Subcommittee	SUN	3:30P - 6:30P	Salon 532-1 (R)
201	Durability	SUN	2:00P - 5:00P	Versailles (R)
207	Mass Concrete	TUE	10:00A- 1:00P	Salon 522-6 (R)
209	Creep and Shrinkage	MON	8:30A - 1:00P	St. Lambert (H)
210	Erosion/Hydraulic Struct.	TUE	2:00P - 3:30P	Salon 532-1 (R)
211	Proportioning	THU	8:30A - 1:00P	Outremont (H)
211-A	Edit and Coordination	TUE	11:30A- 1:00P	Trembles (H)

COMM.	COMMITTEE TITLE	DAY TIME	ROOM/HOTEL
211-B	Lightweight	TUE 2:00P - 3:30P	Trembles (H)
211-C	No Slump	MON 3:30P - 5:00P	Longueuil (H)
211-D	High Strength	MON 11:30A- 1:00P	Verniere A (R)
211-E	Evaluation & Adjustment	TUE 5:00P - 6:30P	St. Leonard (R)
211-F	Mixture Submittal	MON 5:00P - 6:30P	Longueuil (H)
212	Chemical Admixtures	MON 8:30A -11:30A	Portage (H)
213	Lightweight	MON 11:30A- 1:00P	St. Laurent (R)
213-A	High-Strength Lightweight	MON 10:00A-11:30A	Salon 532-1 (R)
213-B	Lightweight/Parking Struct. and Bridge Decks	MON 8:30A -10:00A	Vitre (R)
213-C	By-Product Lightweight Aggregates	MON 8:30A -10:00A	Les Courants (R)
213-D	Review of 213 Guide	MON 10:00A-11:30A	Salon 530-2 (R)
214	Strength Tests	WED 2:00P - 6:30P	St. Charles (R)
215	Fatigue	WED 2:00P - 5:00P	St. Leonard (H)
216	Fire Resistance and Fire Protection of Structures	TUE 2:00P - 5:00P	St. Lambert (H)
221	Aggregates	WED 5:00P - 6:30P	Fundy (H)
222	Corrosion	TUE 10:00A- 1:00P	Les Courants (R)
223	Shrinkage Compensating Concrete	TUE 5:00P - 6:30P	Portage (H)
223-1	Components	MON 10:00A-11:30A	Salon 520-5 (R)
224	Cracking	TUE 2:00P - 5:00P	Verdun (H)
225	Hydraulic Cements	MON 2:00P - 3:30P	Les Courants (R)
225TG	Hydraulic Cements Task Group	SUN 2:00P - 5:00P	Salon 530-2 (R)
227	Radioactive Hazardous Waste Management	SUN 3:30P - 6:30P	Salon 522-6 (R)
228	Nondestructive Testing	MON 2:00P - 6:30P	Victoria (R)
229	Controlled Low-Strength	WED 3:30P - 5:00P	Versailles (R)
230	Soil Cement	MON 11:30A- 1:00P	Victoria (R)
231	Early Age	MON 2:00P - 5:00P	Verniere B (R)
232	Fly Ash & Natural Pozzolans	TUE 8:30A -10:00A	Regency C (R)
233	Ground Slag	TUE 10:00A- 1:00P	St. Lambert (H)
234	Silica Fume	TUE 2:00P - 3:30P	Portage (H)
235	Knowledge Based Systems	MON 5:00P - 6:30P	Portage (H)
301	Specifications	THU 8:30A - 5:00P	St. Charles (R)
302	Construction of Floors	MON 2:00P - 6:30P	Regency C (R)
303	Architectural Concrete	TUE 2:00P - 5:00P	St. Leonard (H)
304	Meas/Mix/Trans/Place	MON 11:30A- 1:00P	St. Leonard (H)
305	Hot Weather	SUN 2:00P - 3:30P	Fundy (H)

COMM.	COMMITTEE TITLE	DAY	TIME	ROOM/HOTEL
306	Cold Weather	TUE	11:30A- 1:00P	St. Leonard (H)
307	Chimneys (M-1)	THU	10:00A- 1:00P	St. Pierre (H)
307	Chimneys (M-2)	THU	2:00P - 5:00P	St. Pierre (H)
308	Curing Concrete	THU	11:30A- 1:00P	Versailles (R)
308R	Curing - SOA Report	THU	10:00A-11:30A	Versailles (R)
308S	Curing - Specifications	THU	8:30A -10:00A	Versailles (R)
309	Consolidation	SUN	2:00P - 5:00P	St. Leonard (H)
311	Inspection	MON	10:00A- 1:00P	Vitre (R)
315	Detailing	MON	11:30A- 1:00P	Salon 532-1 (R)
318	Building Code (M-1)	MON	8:30A - 1:00P	Regency B (R)
318	Building Code (M-2)	TUE	2:00P - 6:30P	Regency C (R)
318-A	General Concrete Construction	MON	2:00P - 6:30P	Salon 530-2 (R)
318-B	Reinforcement and Development	TUE	8:30A - 1:00P	Victoria (R)
318-C	Serviceability/Safety	TUE	8:30A - 1:00P	Salon 528-3 (R)
318-D	Flexure and Axial Loads	TUE	8:30A - 1:00P	Salon 518-4 (R)
318-E	Shear and Torsion	MON	2:00P - 6:30P	Salon 528-3 (R)
318-F	Two-Way Slabs	TUE	8:30A - 1:00P	Salon 520-5 (R)
318-G	Prestressed Precast	MON	2:00P - 6:30P	Salon 518-4 (R)
318-H	Seismic Provisions	MON	2:00P - 6:30P	St. Charles (R)
325	Pavements	MON	2:00P - 3:30P	Fundy (H)
325-32	Jointed Pavement	MON	8:30A -10:00A	Trembles (H)
325-33	Fast Track Pavements	MON	11:30A- 1:00P	Trembles (H)
325-36	Pavement Strength	MON	10:00A-11:30A	Trembles (H)
330	Parking Lots	TUE	8:30A -10:00A	Fundy (H)
332	Residential	WED	2:00P - 5:00P	Cartier A (R)
332-TG	Residential Task Group	TUE	10:00A-11:30A	Frontenac (H)
335	Composite and Hybrid Structures	TUE	3:30P - 6:30P	St. Pierre (H)
336	Footings	TUE	8:30A - 1:00P	St. Charles (R)
340	Design Aids	WED	2:00P - 6:30P	St. Pierre (H)
341	Earthquake-Resistant Bridges	WED	2:00P - 5:00P	Les Courants (R)
342	Bridges & Bridge Elements	TUE	3:30P - 6:30P	Cartier (H)
343	Bridge Design	SUN	2:00P - 5:00P	Regency C (R)
345	Bridge Construction	TUE	8:30A -11:30A	Vitre (R)
347	Formwork	TUE	2:00P - 5:00P	St. Laurent (R)
348	Safety	SUN	5:00P - 6:30P	Regency C (R)
349	Nuclear Structures	TUE	2:00P - 5:00P	Versailles (R)
349-1	Materials	MON	2:00P - 3:30P	St. Lambert (H)
349-2	Design	MON	3:30P - 5:00P	St. Lambert (H)

COMM.	COMMITTEE TITLE	DAY TIME	ROOM/HOTEL
548-E	Structural Design & Analysis	MON 8:30A - 11:30A	Verniere B (R)
549	Ferrocement	SUN 3:30P - 5:00P	St. Pierre (H)
550	Precast Concrete Structures	TUE 8:30A - 11:30A	St. Laurent (R)
551	Tilt-Up Construction (M-1)	MON 8:30A - 1:00P	St. Pierre (H)
551	Tilt-Up Construction (M-2)	MON 2:00P - 5:00P	St. Pierre (H)
552	Geotechnical Grouting	SUN 3:30P - 5:00P	St. Lambert (H)
554	Bearing Systems	MON 10:00A-11:30A	Lachine (H)
555	Removal/Reuse of Concrete	WED 2:00P - 3:30P	Frontenac (H)
556	Demolition	WED 2:00P - 3:30P	Salon 520-5 (R)
555/ 556	Removal & Reuse/ Demolition	WED 3:30P - 5:00P	Salon 520-5 (R)
558	Protective Coatings	MON 3:30P - 5:00P	Fundy (H)

NOTE: Committees not listed did not request a meeting at this convention or the committee has requested a closed meeting. Those committees having closed meetings have received a closed meeting schedule.

◆ Friday, November 3
(H) Bonaventure Hilton
(R) Radisson Gouvemeurs

TECHNICAL FIELD TRIP

SATURDAY, NOVEMBER 4
6:30 AM - 8:00 PM

MEET AT
HILTON ENTRANCE

FIELD TRIP TO THE JAMES BAY

Sponsored by the ACI Eastern
Ontario and Québec Chapter

Coordinator: J. R. Maurice Marcil
Civil Engineer
Consultants Sodexcon Inc.
Laval, Québec

Join your colleagues for a visit to a major civil engineering achievement in the Canadian wilderness. A field trip to the James Bay hydroelectric project some 600 miles (1000 kilometers) north of Montréal, where you will see the La Grande-2 dam, 1.7 miles (2.8 kilometers) long by 530 feet (162 meters) height, the most powerful generating station in Canada (7326 MW and the fourth in the world, next to the Grand Coule (9700 MW), which is located some 450 feet (137 meters) under the mountain, the "giant staircase" or spillway where its capacity is twice the flow of the St. Lawrence River 574,919 c.ft.~second (16,280 c m~sec) and the Northern Québec taiga forest where it takes one hundred years for a black spruce to become a 4 inch (100 mm) tree. At this latitude, 54 degrees north, November is a surprising month; it might be cold, 10°F (-12°C) or mild 30°F (0°C) and sunny. Warm clothing is a necessity, there might be snow.

A bus is scheduled to depart from the Bonaventure Hilton Hotel entrance at 6:30 AM and will return by 8:00 PM. Breakfast will be served on the plane, lunch will be taken at the Auberge Radisson and dinner taken on the plane on our way back to Montréal. **\$300.00 U. S. per person**

EDUCATIONAL SEMINAR

SATURDAY, NOVEMBER 4 ROOM: **OUTREMONT**
8:30 AM - 5:00 PM HOTEL: **HILTON**

TROUBLESHOOTING CONCRETE CONSTRUCTION

Learn practical solutions to everyday problems as:

- How to place slab reinforcement
- How to detect delaminations
- Making functional construction joints
- What cracks can tell you
- How to properly vibrate concrete
- How to prevent most cracks

Sponsored by the Eastern Ontario and Québec
Chapter and the ACI Education Department

Session Chairman: Marc A. Charlebois
Vice President
Marketing and Technical
Services
Anti-Hydro Canada, Inc.
St. Laurent, Québec

Registration Opens	8:00
Session I starts	8:30
Lunch (included in your registration fee)	NOON
Session II starts	1:00
Questions and Answers	4:30

continued

EDUCATIONAL SEMINAR

SATURDAY, NOVEMBER 4 ROOM: **OUTREMONT**
8:30 AM - 5:00 PM HOTEL: **HILTON**

TROUBLESHOOTING CONCRETE CONSTRUCTION

Sponsored by the Eastern Ontario and Québec Chapter and the ACI Education Department

continued

Armand H. Gustaferro - Armand H. Gustaferro is a consulting engineer with the Consulting Engineers Group, Mt. Prospect, IL. He has had an illustrious career as a researcher, design engineer, speaker, and author. He has investigated many problems involving concrete structures and slabs on grade.

Jerome H. Ford - Jerome H. Ford is National Dealer Sales Manager with Symons Corp., Des Plaines, IL. He provides guidance in the proper use of forms and advice on how to prevent or solve problems with formed concrete. He was a general contractor for ten years and has been employed by form manufacturers for the last twenty plus years.

Registration for this seminar is not included in the convention registration fee. There is an additional fee of \$179 (U.S.) for ACI members and convention attendees; \$199 (U.S.) for nonmembers. Included in the registration fee is the cost of the seminar course manual (SCM-22), normally sold for \$59.50

- SEPARATE REGISTRATION FEE

FALL 1995 SEMINARS CALENDAR

One - Day Seminars

Concrete Slabs on Grade Atlanta, GA	November 30, 1995
Durability Philadelphia, PA	November 16, 1995
Jacksonville, FL	November 30, 1995
San Francisco, CA	December 5, 1995
Troubleshooting Concrete Construction Montreal, Quebec	November 4, 1995
Dallas, TX	November 16, 1995
Indianapolis, IN	November 28, 1995
Baltimore, MD	December 5, 1995
Seismic Retrofit Portland, OR	November 16, 1995
Los Angeles, CA	December 5, 1995
Concrete Site Paving New Orleans, LA	November 29, 1995

Two - Day Course

Basics of Concrete Design Richmond, VA	Nov 30-Dec 1, 1995
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One - Half Day Seminar

Metrication Tampa, FL	November 16, 1995
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ACI/PCA 318 BUILDING CODE SEMINARS

LEARN ACI 318 THE EASY WAY!

Fifty seminars covering significant changes to the ACI 318 Building Code will be held in 1996 throughout the United States. Sponsored by the American Concrete Institute and Portland Cement Association, these seminars are held every six years coinciding with each major Code revision.

The instructors are members of the ACI 318 Building Code Committee, the people responsible for the Code changes. Participants will be guided step by step through the revisions and find out how to implement the changes necessary for every day design and construction activities.

The 318 seminars will begin in March 1996. Specific dates and locations will be released in early January.

STUDENT PROGRAM

SUNDAY, NOVEMBER 5
12:30 PM - 5:00 PM

McGILL UNIVERSITY
McDonald Building
Structural Laboratory

CONCRETE CUBE COMPETITION

Sponsored by Committee E801 and the Eastern Ontario
and Québec Chapter

Session Chair: Kelly M. Page
President
Concrete Enterprises, Inc.
Buffalo Grove, IL

Session Co-Chair: Richard Gagné
Assistant Professor
Department of Civil
Engineering
Université de Sherbrooke
Sherbrooke, Québec

Students interested in walking to 12:30
McGill (approximately 10 minutes) with
the group are to meet at the Eastern Ontario
and Québec Chapter Hospitality Desk located
near the registration area at the Radisson
Hotel.

Welcome by McGill University Host 1:00
(Denis Mitchel)

ACI and Convention Overview 1:15
Kelly M. Page, President, Concrete
Enterprises, Inc., Buffalo Grove, IL

Mentor Program Overview 1:30
Richard Gagné, Assistant Professor,
Department of Civil Engineering,
Université de Sherbrooke, Sherbrooke, Québec

Cost Analysis of Hot Weather Concrete 1:45
Douglas R. Flath, Senior Construction Student,
Southern Illinois University at Edwardsville,
currently employed by Korte Construction Co.,
Highland, IL. Mr. Flath won first place in this
year's student concrete projects competition.

continued

STUDENT PROGRAM

SUNDAY, NOVEMBER 5
12:30 PM - 5:00 PM

McGILL UNIVERSITY
McDonald Building
Structural Laboratory

CONCRETE CUBE COMPETITION

Sponsored by Committee E801 and the Eastern Ontario
and Québec Chapter

continued

Test Concrete Cubes **2:00**
Soft drinks and snacks will be served during
the concrete cubes competition.

Return to Hotel **5:00**

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Note: For those who wish to attend and will not be
walking, activities will take place in the Structure
Laboratory, McDonald Building (ground floor) at
McGill University.

TECHNICAL SESSION

SUNDAY, NOVEMBER 5
1:00 PM - 5:00 PM

ROOM: REGENCY A
HOTEL: RADISSON

**RECENT DEVELOPMENTS IN DEFLECTION
EVALUATION OF CONCRETE STRUCTURES
IN HONOR OF DAN BRANSON: PART I**
(1:00 PM - 3:00 PM)

Sponsored by Committees 435 and 421

Session Chair: Edward G. Nawy
Distinguished Professor
Department of Civil and
Environmental Engineering
Rutgers, The State
University of New Jersey
Piscataway, NJ

Session Co-Chair: Debrethann R. Cagley
Structural Engineer
Cagley & Associates
Rockville, MD

Introduction 1:00

Edward G. Nawy, Distinguished Professor,
Department of Civil and Environmental
Engineering, Rutgers, The State
University of New Jersey, Piscataway, NJ

**Deflection of a Concrete Beam and Slab
Roof 1:04**

Russell S. Fling, Consulting Engineer, Columbus, OH

**Deflection and Minimum Thickness
Requirements in the EC2 and ACI Codes 1:22**

Himat Solanki, Civil Engineer, Southwest
Florida Water Management District, Sarasota, FL

**Analytical Representation of Flat Plate
Structures under Vertical and Lateral Loads 1:40**

Ian N. Robertson, Assistant Professor,
Department of Civil Engineering, University
of Hawaii, Honolulu, HI, and Clinton J.
Ambrose, Design Engineer, SSFM Engineers,
Inc., Honolulu, HI

continued

TECHNICAL SESSION

SUNDAY, NOVEMBER 5
1:00 PM - 5:00 PM

ROOM: REGENCY A
HOTEL: RADISSON

**RECENT DEVELOPMENTS IN DEFLECTION
EVALUATION OF CONCRETE STRUCTURES
IN HONOR OF DAN BRANSON: PART I**
(1:00 PM - 3:00 PM)

Sponsored by Committees 435 and 421

continued

**Deflection Analysis of Reinforced Concrete
Members Using Finite Element Method** **1:58**

Maria Anna Polak, Assistant Professor,
Department of Civil Engineering, University
of Waterloo, Waterloo, Ontario; Andrew
Scanlon, Professor, Department of Civil
and Environmental Engineering, The
Pennsylvania State University, University
Park, PA; and David V. Phillips, Senior
Lecturer, Department of Civil Engineering,
University of Glasgow, Glasgow, Scotland,
UK

**Effects of Deflection on Pounding of
Reinforced Concrete Buildings** **2:16**

Y. L. Mo, Associate Professor, and H. C.
Lai, Graduate Student, Department of Civil
Engineering, National Cheng Kung
University, Tainan, Taiwan, China

**Non-Contact Deflection Measurements in
Structures Using Diffraction Gratings** **2:34**

Peter L. Fuhr, Associate Professor;
Dryver R. Huston, Associate Professor; and
Adam J. McPadden, Research Assistant,
Intelligent Structural Systems Institute,
College of Engineering, University of
Vermont, Burlington, VT

Discussion **2:52**

continued

TECHNICAL SESSION

SUNDAY, NOVEMBER 5
1:00 PM - 5:00 PM

ROOM: REGENCY A
HOTEL: RADISSON

**RECENT DEVELOPMENTS IN DEFLECTION
EVALUATION OF CONCRETE STRUCTURES
IN HONOR OF DAN BRANSON: PART II**
(3:00 PM - 5:00 PM)

Sponsored by Committees 435 and 421

continued

Session Chairman: Satyendra K. Ghosh
Director
Engineering Structures/Codes
Portland Cement Association
Skokie, IL

Session Co-Chairman: Hershell Gill
President
Hershell Gill Consulting
Engineers
Coral Gables, FL

**Load-Deformation Relationships for High-
Strength Concrete Beams Reinforced with
Prestressed Prisms as Main Reinforcement** **3:00**

Benxian Chen, Structural Engineer, Parsons
Brinkerhof - FG, Inc., Princeton, NJ, and
Edward G. Nawy, Distinguished Professor,
Rutgers, The State University of New Jersey,
Piscataway, NJ

**Effect of Openings on the Deflection and
Strength of Reinforced Concrete Slabs** **3:18**

M. Ashghar Bhatti, Associate Professor, and
Baizhong Lin, Graduate Student, Department
of Civil and Environmental Engineering,
University of Iowa, Iowa City, IA; and J. P.
Idelin Molinas Vega, Lecturer, Department
of Civil Engineering, Catholic University of
Asunción, Asunción, Paraguay

continued

TECHNICAL SESSION

SUNDAY, NOVEMBER 5
1:00 PM - 5:00 PM

ROOM: REGENCY A
HOTEL: RADISSON

**RECENT DEVELOPMENTS IN DEFLECTION
EVALUATION OF CONCRETE STRUCTURES
IN HONOR OF DAN BRANSON: PART II**
(3:00 PM - 5:00 PM)

Sponsored by Committees 435 and 421

continued

**Controlling Deflection Serviceability by
Span-Depth Limits and Long-Term Deflection
Multipliers for Reinforced Concrete Beams** 3:36

Noel J. Gardner, Professor, and Jiehong
Zhang, Research Assistant, Department of
Civil Engineering, University of Ottawa,
Ottawa, Ontario

**Prediction and Control of Deflection in
Partially-Prestressed Post-Tensioned Beams
with Unbonded Tendons** 3:54

Pinaki R. Chakrabarti, Chairman, Department
of Civil Engineering, University of California
at Fullerton, Fullerton, CA

**Long-Term Deflections of High-Strength
Concrete Beams and One-Way Slabs** 4:12

Rajadurai Ganeswaran, Research Associate,
and Vijaya B. Rangan, Professor and Head,
School of Civil Engineering, Curtin
University of Technology, Perth, Western
Australia

**Analytical and Experimental Comparison of
Elastic Deflections in Steel Fiber Reinforced
Thin Concrete Slabs** 4:30

Tat Seng Lok, Professor, and Jinsong Pei,
Research Scholar, School of Civil and
Structural Engineering, Nanyang
Technological University, Singapore

Discussion 4:48

TECHNICAL SESSION

SUNDAY, NOVEMBER 5 ROOM: **LASALLE & LACHINE**
2:00 PM - 5:00 PM HOTEL: **HILTON**

CREEP AND SHRINKAGE OF CONCRETE

Sponsored by Committee 209

Session Chairman: Chung C. Fu
Associate Professor
Department of Civil
Engineering
University of Maryland
College Park, MD

Creep and Shrinkage of Normal, Medium, 2:00
and High-Strength Concretes during
Hydration

Arshad A. Khan, Doctoral Candidate;
William D. Cook, Research Engineer; and
Denis Mitchell, Professor, Department of
Civil Engineering and Applied Mechanics,
McGill University, Montréal, Québec

The Proposed Japanese Standard Prediction 2:20
Method for Creep and Shrinkage

Kenji Sakata, Professor, and Toshiki Ayano,
Lecturer, Department of Civil and
Environmental Engineering, Okayama
University, Tsushima-naka, Okayama, Japan;
and Tada-aki Tanabe, Professor, Department
of Civil Engineering, Nagoya University,
Chigusa-ku, Nagoya, Japan

Experimental Investigations of Creep 2:40
Deflections in Prestressed Concrete Beams

Issam E. Harik, Professor, Head of Structures,
and Le-Nong Zhou, Visiting Professor,
Department of Civil Engineering, University
of Kentucky, Lexington, KY

continued

TECHNICAL SESSION

SUNDAY, NOVEMBER 5 ROOM: LASALLE & LACHINE
2:00 PM - 5:00 PM HOTEL: HILTON

CREEP AND SHRINKAGE OF CONCRETE

Sponsored by Committee 209

continued

- Long-Term Behavior of PPC Beams with Variability of Creep Properties** 3:00
Katsuhiko Takami, Associate Professor, and Sumio Hamada, Professor, Department of Civil Engineering, Yamaguchi University, Ube, Yamaguchi, Japan
- The New AFREM Code-Type Model for Creep and Shrinkage of HPC** 3:20
Robert Le Roy, Research Engineer, and François de Larrard, Head, Concrete Mix-Design and Rheology Section, Laboratoire Central des Ponts et Chaussées, Paris cedex, France
- Extrapolation of Short-time Shrinkage and Creep Data and Prediction Model B3** 3:40
Zdeněk P. Bažant, Professor, and Sandeep Baweja, Graduate Research Assistant, Department of Civil Engineering, Northwestern, University, Evanston, IL
- Shrinkage and Creep Equations for Design** 4:10
N. John Gardner, Professor, Department of Civil Engineering, University of Ottawa, Ottawa, Ontario

TECHNICAL SESSION

SUNDAY, NOVEMBER 5 **ROOM: OUTREMONT**
2:00 PM - 5:00 PM **HOTEL: HILTON**

HIGH-STRENGTH CONCRETE: PART I

Sponsored by Committee 363 and Concrete Canada

Session Chairman: Pierre-Claude Aïtcin
Professor, Department of
Civil Engineering and
Scientific Director, Concrete
Canada
Université de Sherbrooke
Sherbrooke, Québec

- | | |
|---|-------------|
| Introduction | 2:00 |
| Pierre-Claude Aïtcin, Professor, Department of Civil Engineering, and Scientific Director, Concrete Canada, Université de Sherbrooke, Sherbrooke, Québec | |
| High-Strength Concrete in Japan: History and Progress | 2:05 |
| Shigeyoshi Nagataki, Professor, Department of Civil Engineering, Tokyo Institute of Technology, Meguroku, Tokyo, Japan | |
| Application of High-Strength Concrete in Norway | 2:40 |
| Steinar Helland, Vice President, Concrete Technology Department, Selmer A. S., Oslo, Norway | |
| High-Performance Concrete: Custom Designed Concrete – A Review of the French Experience and Prospects for Future Development | 3:15 |
| Yves Malier, Professor, Ecole Normale Supérieure de Cachan, Cachan, Cedex, France, and Pierre Richard, Research Director and Senior Vice President, Bouygues Group, Cachan, Cedex, France | |

continued

TECHNICAL SESSION

SUNDAY, NOVEMBER 5 **ROOM: OUTREMONT**
2:00 PM - 5:00 PM **HOTEL: HILTON**

HIGH-STRENGTH CONCRETE: PART I

Sponsored by Committee 363 and Concrete Canada

continued

High-Strength Concrete: Technology 3:50
Practice and Design in Germany

Gert Koenig, Professor, and Rainer Grimm,
Research Assistant, Department of Civil
Engineering, Technical University of
Darmstadt, Darmstadt, Germany

High-Strength Concrete in the Netherlands 4:25

Joost Walrauen, Professor, Department of
Civil Engineering, Delft University of
Technology, Delft, The Netherlands

TECHNICAL SESSION

SUNDAY, NOVEMBER 5 **ROOM: WESTMOUNT**
2:00 PM - 5:00 PM **HOTEL: HILTON**

SHORT DURATION DYNAMIC LOADING

Sponsored by Committee 370

Session Chairman: Sam A. Kiger
Chairman and Professor
Department of Civil and
Environmental Engineering
West Virginia University
Morgantown, WV

Session Co-Chairman: Robert L. Hall
Research Engineer
Structures Laboratory
U. S. Army Engineer
Waterways
Experiment Station
Vicksburg, MS

Introduction **2:00**
Sam A. Kiger, Chairman and Professor,
Department of Civil and Environmental
Engineering, West Virginia University,
Morgantown, WV

**Design Criteria for the Use of Reinforcing
Steel Splices in Blast-Resistant Concrete
Structures** **2:05**
William H. Zehrt, Jr., Structural Engineer,
and Robert E. Hasse, Structural Engineer,
Huntsville Division, U. S. Army Corps of
Engineers, Huntsville, AL

**Numerical Modeling of Reinforced Concrete
Subjected to Impulsive Loads** **2:30**
Robert L. Hall, Research Engineer; James T.
Baylot, Research Engineer; and Photios P.
Papados, Research Engineer, Structures
Laboratory, U. S. Army Engineer Waterways
Experiment Station, Vicksburg, MS

continued

TECHNICAL SESSION

SUNDAY, NOVEMBER 5 ROOM: WESTMOUNT
2:00 PM - 5:00 PM HOTEL: HILTON

SHORT DURATION DYNAMIC LOADING

Sponsored by Committee 370

continued

**Shock Strength of Reinforced Concrete
Slabs: Validity of Some Simplified
Design Methods** **2:55**

Fraucis Toutlemonde, Research Engineer,
and Pierre Rossi, Research Manager,
Laboratoire Central des Pontes et
Chaussees, Paris Cedex, France

Shock Absorbing Structural Elements **3:20**

James E. Tancreto, Research Structural
Engineer; Kevin Hager, Research Structural
Engineer; and Javier Malvar, Research
Structural Engineer, Naval Facilities
Engineering Services Center, Port
Hueneme, CA

**Punching Shear Strength of Reinforced
Concrete Slabs Subjected to Dynamic
Loadings** **3:45**

Himat T. Solanki, Consulting Engineer,
Sarasota, FL

**Development of an Innovative Standard
Explosives Storage Magazine** **4:10**

Joseph M. Serena III, Structural Engineer,
Huntsville Division, U. S. Army Corps of
Engineers, Huntsville, AL

**Response of Buried Structures Subjected
To Ground Shock Loads** **4:35**

Thomas R. Slawson, Structural Engineer,
Applied Research Associates, Vicksburg,
MS, and E. C. Ting, Professor, Department
of Civil Engineering, Purdue University,
West Lafayette, IN

TECHNICAL SESSION

SUNDAY, NOVEMBER 5
2:00 PM - 5:00 PM

ROOM: REGENCY B
HOTEL: RADISSON

STATE-OF-THE-ART OF FIBER REINFORCED PLASTICS IN CONCRETE STRUCTURES

Sponsored by Committee 440

Session Chairman: Mohammad R. Ehsani
Associate Professor
Department of Civil
Engineering
University of Arizona
Tucson, AZ

Introduction **2:00**
Mohammad R. Ehsani, Associate Professor,
Department of Civil Engineering, University
of Arizona, Tucson, AZ

Fiber Reinforced Plastic Materials **2:20**
Antonio Nanni, Associate Professor,
Department of Architectural Engineering,
The Pennsylvania State University,
University Park, PA

**Analysis and Design of FRP Reinforced
Concrete Structures** **2:45**
Charles Goodspeed, Associate Professor,
Department of Civil Engineering, University
of New Hampshire, Durham, NH

**Analysis and Design of FRP Prestressed
Concrete Structures** **3:10**
Sami H. Rizkalla, Professor, Department of
Civil and Geological Engineering, University
of Manitoba, Winnipeg, Manitoba

**Repair and Rehabilitation with Composite
Materials** **3:35**
Hamid Saadatmanesh, Associate Professor,
Department of Civil Engineering, University
of Arizona, Tucson, AZ

Discussion/Questions and Answers **4:05**

EDUCATIONAL SESSION

MONDAY, NOVEMBER 6 ROOM: **OUTREMONT**
7:00 AM - 8:30 AM HOTEL: **HILTON**

BREAKFAST TRAINING SESSION FOR SESSION CHAIRS AND SPEAKERS - By Invitation Only

Sponsored by Committee E903

Session Chair: Roger E. Wilson
Manager
Industry Programs
Portland Cement Association
Skokie, IL

Continental Breakfast for First 50 Attendees 7:00

**Who Is Responsible for Improving the
Content and Presentations at Convention
Sessions?** 7:20

A report and discussion from the chair
of the Ad hoc Committee on Improvement
of Convention Sessions.

Kenneth C. Hover
Professor
Department of Civil
Engineering
Cornell University
Ithaca, NY

Evaluation and Adjournment 8:20

STUDENT'S DAY

MONDAY, NOVEMBER 6
8:30 AM - 2:00 PM

ACI and the Eastern Ontario and Québec Chapter are hosting a special day for the future leaders of our industry.

Mentor Program 8:30
Students and mentors will meet at the Eastern Ontario and Québec Hospitality Desk located near the registration area in the Radisson Hotel.

Registered students will be assigned a mentor with similar interests to attend committee meetings and technical sessions. All technical meetings are open to students.

Students to accompany their individual mentors to their morning convention activities. 9:00

Luncheon NOON
The luncheon will be held in the Outremont Ballroom at the Bonaventure Hilton.

Program Commences 1:00
Announcement of winners and plaques given for the ACI cubes competition.

New Applications of High-Performance Concrete 1:15
Pierre-Claude Aitcin, Professor, Department of Civil Engineering, and Scientific Director, Concrete Canada, Université de Sherbrooke, Sherbrooke, Québec

Return to Convention Activities 2:00

<p style="text-align: center;">Menu</p> <p style="text-align: center;">Minestrone Soup Meat Ravioli Italian Mixed Vegetables Garlic Bread Cassata with Chocolate Sauce Coffee, Tea, Iced Tea</p> <p style="text-align: center;">Please purchase tickets by 5:00 PM, Sunday if you plan to attend.</p> <p style="text-align: center;">\$15.00 US</p>

GET ANSWERS TO YOUR CONCRETE QUESTIONS *fast!*

THE ELECTRONIC ENCYCLOPEDIA OF CONCRETE TECHNOLOGY

The *ACI Manual of Concrete Practice* is available on compact disc. The CD-ROM uses sophisticated yet easy-to-use search and retrieval software to enable you to instantly access the most comprehensive set of documents available on concrete technology. The CD-ROM enhances the value of *ACI's Manual of Concrete Practice*. Waste no time looking for an *ACI* document that's referenced in project specifications. Imagine instantly retrieving every reference that exists on your subject!

INSTANT ACCESS TO THE MOST COMPREHENSIVE SET OF DOCUMENTS AVAILABLE ON CONCRETE TECHNOLOGY

The MCP CD-ROM contains all of the *ACI* documents you need to answer your questions about code requirements, specifications, tolerances, concrete proportions, construction methods, evaluations of test results and many more topics. Over 4600 pages contain 180 of the most used documents on concrete technology. The CD-ROM includes an additional 600 pages of information not included in the print edition. When time is of the essence, paging through the *Manual of Concrete Practice* represents hundreds of lost hours each year. With the MCP CD-ROM, information is a few keystrokes away!

DEMONSTRATIONS SCHEDULED DURING THE CONVENTION

See how quickly the **MCP CD-ROM** will provide you with the solid information found in the *Manual of Concrete Practice*. Demonstrations have been conveniently scheduled during the convention in the St. Laurent Room at the Hilton. Please note that space is limited.

Sunday

1:00 PM - 2:00 PM

5:00 PM - 6:00 PM

Monday

7:30 AM - 8:30 AM

3:00 PM - 4:00 PM

Tuesday

1:00 PM - 2:00 PM

5:00 PM - 6:00 PM

Wednesday

8:30 AM - 9:30 AM

5:00 PM - 6:00 PM

ATTEND A DEMO AND GET A FREE ACI MOUSE PAD!

TECHNICAL SESSION

MONDAY, NOVEMBER 6 **ROOM: AUDITORIUM**
9:00 AM - NOON **HOTEL: RADISSON**

RESEARCH IN PROGRESS

Sponsored by Committee 123

Session Chairman: Jan Olek
Assistant Professor
School of Civil Engineering
Purdue University
West Lafayette, IN

Session Co-Chairman: Houssam A. Toutanji
Assistant Professor
Department of Civil
Engineering
University of Puerto Rico
Mayagüez, PR

Introduction **9:00**
Jan Olek, Assistant Professor, School of Civil
Engineering, Purdue University, West Lafayette, IN

Performance Criteria for Durable Concrete **9:05**
Repairs
Randall W. Poston, Principal, Whitlock Dalrymple
Poston & Associates, Inc., Manassas, VA; James E.
McDonald, Research Civil Engineer, Concrete
Technology Division, Structures Laboratory, U. S.
Army Engineer Waterways Experiment Station,
Vicksburg, MS; and Alexander M. Vaysburd, Director
of Research and Development, Structural Preservation
Systems, Inc., Baltimore, MD

Field Installation of Sacrificial Anode **9:20**
Cathodic Protection System on Bridge Deck
Mohamad A. Nagi, Research Engineer, and David A.
Whiting, Senior Principal Engineer, Construction
Technology Laboratories, Inc., Skokie, IL; and
John P. Broomfield, Corrosion Consultant, West
Wimbledon, London, England, UK

continued

TECHNICAL SESSION

MONDAY, NOVEMBER 6
9:00 AM - NOON

ROOM: AUDITORIUM
HOTEL: RADISSON

RESEARCH IN PROGRESS

Sponsored by Committee 123

continued

**Bridge Concrete Columns Confined by
Fiber Reinforced Plastic Tubes** 9:35

Michael S. Samaan, Graduate Student, and Amir Mirmiran, Assistant Professor, Department of Civil and Environmental Engineering, University of Central Florida, Orlando, FL; and Mohsen A. Shahawy, Chief Structural Analyst, Structures Research Laboratory, Florida Department of Transportation, Tallahassee, FL

**Microstructure and Mechanism of Bond
in Masonry** 9:50

David A. Lange, Assistant Professor; Harvey D. DeFord, Graduate Research Assistant; and Asif Ahmed, Graduate Research Assistant, Department of Civil Engineering, University of Illinois, Urbana, IL

Ductility of Fibrous Reinforced Concrete Beams 10:05

P. N. Balaguru, Professor, and Andrew J. Foden, Graduate Student, Department of Civil and Environmental Engineering, Rutgers, The State University of New Jersey, Piscataway, NJ

**Progress of Experimental Studies on High-
Strength Concrete Structural Components
at the University of Southern California** 10:20

Yan Xiao, Assistant Professor, Department of Civil Engineering, University of Southern California, Los Angeles, CA

**Confinement Effect of Double Head Studs
in Concrete Columns** 10:35

Walter H. Dilger, Professor, and Amin Ghali, Professor, Department of Civil Engineering, University of Calgary, Calgary, Alberta

continued

TECHNICAL SESSION

MONDAY, NOVEMBER 6
9:00 AM - NOON

ROOM: AUDITORIUM
HOTEL: RADISSON

RESEARCH IN PROGRESS

Sponsored by Committee 123

continued

**Durability and Bond of AFRP an CFRP
Pretensioned Elements** 10:50

Rajan Sen, Professor, Department of Civil and Environmental Engineering, University of South Florida, Tampa, FL; Mohsen A. Shahawy, Chief Structural Analyst, Florida Department of Transportation, Tallahassee, FL; Jose Rosas, Structural Engineer, David Volkert & Associates, Tampa, FL; and Satya Sukumar, Structural Engineer, American Engineering Co., Land O'Lakes, FL

**Linear Correlation of Bond Strength and
Contact Electrical Resistivity Between Steel
Rebar and Concrete** 11:05

Xuli Fu, Graduate Student, and Deborah D. L. Chung, Niagara Mohawk Professor, Composite Materials Research Laboratory, State University of New York at Buffalo, Buffalo, NY

**Bond Strength of Reinforced Sulfur
Concrete** 11:20

Mujahid T. Ali, Senior Design/Research Engineer, and Tasnim Uddin, President, Tasnim Uddin & Associates International, Inc., Miami, FL

**The Effect of Controlling the Mixing Process on
Ready-Mix Concrete Trucks on Concrete Production
Variability** 11:35

Daniel Assh, President; Cristine Lemay, Researcher; and Annie Roy, Researcher, D. S. S. Automotion Systems, Hamel Ouest, Québec; Michel Guillot, Professor, Department of Mechanical Engineering, Université Laval, Sainte-Foy, Québec; and Peter R. Ramsay, Technology Advisor, Toronto Construction Association, Mississauga, Ontario

**New Developments in Acrylate Modified
Epoxy-Amine Cure Coatings** 11:50

C. Richard Costin, Technical Manager, and Michael A. Bailey, Senior Application Chemist, Specialty Monomers & Oligomers, Sartomer Co., Inc., Exton, PA

TECHNICAL SESSION

MONDAY, NOVEMBER 6 ROOM: WESTMOUNT
9:00 AM - NOON HOTEL: HILTON

HIGH-STRENGTH CONCRETE: PART II

Sponsored by Committee 363 and Concrete Canada

Session Chairman: Yves Delagrave
Network Manager
Department of Civil
Engineering
Concrete Canada
Université de Sherbrooke
Sherbrooke, Québec

Introduction 9:00

Yves Delagrave, Network Manager, Department of Civil Engineering, Concrete Canada, Université de Sherbrooke, Sherbrooke, Québec

Transmission of High-Strength Column Loads Through Normal Strength Floors 9:20

Scott D. B. Alexander, Assistant Professor; Carlos E. Ospina, Graduate Student; and James G. MacGregor, Professor Emeritus, Department of Civil Engineering, University of Alberta, Edmonton, Alberta

Early-Age Temperature Developments in a High-Performance Concrete Viaduct 9:50

Mohamed Lachemi, Post-Doctoral Fellow; Michel Lessard, Research Engineer; and Pierre-Claude Aïtcin, Professor, Department of Civil Engineering, and Scientific Director, Concrete Canada, Université de Sherbrooke, Sherbrooke, Québec

Diffusion of Chloride Ions in High-Strength Mortars 10:20

Jacques Marchand, Assistant Professor; Anik Delagrave, Doctoral Candidate; and Michel Pigeon, Professor, Department of Civil Engineering, Université Laval, Sainte-Foy, Québec

continued

TECHNICAL SESSION

MONDAY, NOVEMBER 6 ROOM: **WESTMOUNT**
9:00 AM - NOON HOTEL: **HILTON**

HIGH-STRENGTH CONCRETE: PART II

Sponsored by Committee 363 and Concrete Canada

continued

Five Year Monitoring of Creep and Shrinkage 10:50 in High-Performance Concrete Columns

Buquan Miao, Assistant Professor, Department of Civil Engineering, University of Moncton, Moncton, New Brunswick, and Pierre-Claude Aïtcin, Professor, Department of Civil Engineering, and Scientific Director, Concrete Canada, Université de Sherbrooke, Sherbrooke, Québec

In-Place Strength of High-Strength High-Performance Concrete 11:20

F. Michael Bartlett, Assistant Professor, Department of Civil Engineering, University of Western Ontario, London, Ontario, and James G. MacGregor, Professor Emeritus, Department of Civil Engineering, University of Alberta, Edmonton, Alberta

TECHNICAL SESSION

MONDAY, NOVEMBER 6
9:00 AM - NOON

ROOM: MONT ROYAL
HOTEL: HILTON

ASPECTS OF BLAST-RESISTANT DESIGN

Sponsored by Committee 370

Session Chairman: Theodor Krauthammer
Professor
Department of Civil and
Environmental Engineering
The Pennsylvania State
University
University Park, PA

Session Co-Chairman: Stanley C. Woodson
Research Structural Engineer
Structures Laboratory
U. S. Army Engineer
Waterways
Experiment Station
Vicksburg, MS

Introduction 9:00
Theodor Krauthammer, Professor, Department of Civil
and Environmental Engineering, The Pennsylvania
State University, University Park, PA

**Hazards, Loading Environments, and
Design Philosophy** 9:05
Kirk A. Marchand, Manager, Protective Structures,
Structural Engineering Department, Southwest
Research Institute, San Antonio, TX, and Theodor
Krauthammer, Professor, Department of Civil and
Environmental Engineering, The Pennsylvania State
University, University Park, PA

Computational and Simulation Capabilities 9:30
David W. Hyde, Research Structural Engineer,
Structures Laboratory, U. S. Army Engineer Waterways
Experiment Station, Vicksburg, MS

Structural Concrete Element Design 9:55
Paul M. LaHoud, Chief, Civil/Structures
Division, and William H. Zehrt, Structural
Engineer, Huntsville Division, U. S. Army
Corps of Engineers, Huntsville, AL

TECHNICAL SESSION

MONDAY, NOVEMBER 6
9:00 AM - NOON

ROOM: MONT ROYAL
HOTEL: HILTON

ASPECTS OF BLAST-RESISTANT DESIGN

Sponsored by Committee 370

continued

Blast-Resistant Design for Industrial Facilities 10:20

William L. Bounds, Principal Design Engineer, Department of Structural Engineering, Fluor Daniel, Inc., Sugar Land, TX, and Madhav G. Nene, Director, Department of Civil and Structural Engineering, Fluor Daniel, Inc., Irvine, CA

Blast-Resistant Closures 10:45

Timothy S. Blackburn, Manager, Design Group, Overly Manufacturing Co., Greensburg, PA, and David R. Coltharp, Research Physicist, Structures Laboratory, U. S. Army Engineer Waterways Experiment Station, Vicksburg, MS

In-Structure Shock and Content Survivability 11:10

William H. Gaube, Chief, Hardened Structures Design Section, Special Projects Branch, Engineering Division, Omaha District, U. S. Army Corps of Engineers, Omaha, NE

Overview, Assessment and Future Developments 11:35

Stanley C. Woodson, Research Structural Engineer, Structures Laboratory, U. S. Army Engineer Waterways, Experiment Station, Vicksburg, MS, and James E. Tancreto, Structural Engineer, Waterfront Structures Division, Shore Facilities Department, Naval Facilities Engineering Services Center, Port Hueneme, CA

TECHNICAL SESSION

MONDAY, NOVEMBER 6
9:00 AM - NOON

ROOM: REGENCY A
HOTEL: RADISSON

COMPOSITE AND HYBRID CONSTRUCTION: APPLICATIONS, CODES AND RESEARCH, PART I

Sponsored by Committee 335

Session Chairman: Roberto T. Leon
Professor
School of Civil and
Environmental Engineering
Georgia Institute of
Technology
Atlanta, GA

Session Co-Chairman: Bahram M. Shahrooz
Associate Professor
Department of Civil and
Environmental Engineering
University of Cincinnati
Cincinnati, OH

Introduction **9:00**
Roberto T. Leon, Professor, School of Civil and
Environmental Engineering, Georgia Institute of
Technology, Atlanta, GA

U. S. Design Codes for Composite Construction **9:05**
Gregory G. Deierlein, Associate Professor, School
of Civil and Environmental Engineering, Cornell
University, Ithaca, NY, and Roberto T. Leon,
Professor, School of Civil and Environmental
Engineering, Georgia Institute of Technology,
Atlanta, GA

**Behavior of CFT Column-WF Beam Moment
Connections Under Seismic Loading** **9:30**
James M. Ricles, Associate Professor; Le Wu Lu,
Professor; Took K. Sooi, Research Assistant; and
Garry W. Vermaas, Research Assistant,
Department of Civil Engineering, Lehigh
University, Bethlehem, PA

continued

★ THEME SESSION

TECHNICAL SESSION

MONDAY, NOVEMBER 6
9:00 AM - NOON

ROOM: REGENCY A
HOTEL: RADISSON

COMPOSITE AND HYBRID CONSTRUCTION: APPLICATIONS, CODES AND RESEARCH, PART I

Sponsored by Committee 335

continued

Development of Steel-Concrete Composites for Offshore Platforms 9:55

George C. Hoff, Senior Associate Engineer,
Mobil Research and Development/Offshore Engineering,
Dallas, TX

Mixed and Composite Design and Construction Projects in the Far East 10:25

Leslie E. Robertson, Director, Design and
Construction, and Saw-Teen See, Managing
Partner, Leslie E. Robertson Associates,
Consulting Structural Engineers, New York,
NY; and Isao Kimura, Structural Engineer,
Nippon Steel Corp., Tokyo, Japan

Cyclic Response of Composite Coupling Beams 10:50

Bahram M. Shahrooz, Associate Professor;
Bingninan Gong, Research Assistant; and
Arnol J. Gillum, Research Assistant,
Department of Civil and Environmental
Engineering, University of Cincinnati,
Cincinnati, OH

Performance of Composite SRC Column Buildings in Kobe, Japan Earthquake 11:15

Atarod Azizinamini, Associate Professor,
Department of Civil Engineering,
University of Nebraska-Lincoln, Lincoln,
NE

★ THEME SESSION

EDUCATIONAL SESSION

MONDAY, NOVEMBER 6 ROOM: MONT ROYAL
2:00 PM - 5:00 PM HOTEL: HILTON

THE ANALYSIS AND DESIGN OF MAT FOUNDATIONS AND COMBINED FOOTINGS

Sponsored by Committee E705

Session Chairman: David G. Kittridge
Principal Engineer
Boyle Engineering Corp.
Orlando, FL

Introduction	2:00
David G. Kittridge, Principal Engineer, Boyle Engineering Corp., Orlando, FL	
Geotechnical Background and Soil/ Foundation Interaction	2:10
Edward J. Ulrich, President, Ulrich Engineers, Houston, TX	
Classical Method Using NAVFAC DM-7.2	2:40
David G. Kittridge, Principal Engineer, Boyle Engineering Corp., Orlando, FL	
PBE12, A Privately Developed FEA	3:20
Bernardo Deschappelles, Principal, Molina, Garcia & Associates, San Juan, PR	
Mat Foundation Design Using a Commercially Available Program	4:00
Javier F. Horvilleur, Vice President, Walter P. Moore & Associates, Inc., Houston, TX	
Questions and Answers	4:45

TECHNICAL SESSION

MONDAY, NOVEMBER 6
2:00 PM - 5:00 PM

ROOM: LASALLE
HOTEL: HILTON

NEW APPROACHES TO PARKING STRUCTURE DESIGN AND CONSTRUCTION

Sponsored by Committee 362

Session Chairman: Carl A. Peterson
President
Carl Peterson and Associates,
Inc.
Wilmette, IL

**Synopsis of ACI 362 Guide on the Design
of Durable Parking Structures** 2:00
Carl A. Peterson, President, Carl Peterson
and Associates, Inc., Wilmette, IL

**Parking Structures for Theme Parks on
Two Coasts** 2:15
Anthony P. Chrest, Senior Vice President,
Walker Parking Consultants/Engineers, Inc.,
Kalamazoo, MI

**Parking Structures With Mixed Uses
Employing Mixed Materials** 2:35
Thomas J. D'Arcy, President, The Consulting Engineers
Group, Inc., San Antonio, TX

**Performance and Durability of Various
Parking Garage Structural Systems** 3:00
James P. Donnelly, Senior Engineer, Wiss,
Janney, Elstner Associates, Inc., Northbrook, IL

**A New Material for Reducing Reinforcement
Corrosion in Parking Structures** 3:20
Yan Fu, Graduate Student, and Jian Ding,
Graduate Student, Department of Civil
Engineering, University of Ottawa, Ottawa,
Ontario; and James J. Beaudoin, Research
Officer, Materials Laboratory, Institute
for Research in Construction, National
Research Council, Ottawa, Ontario

continued

TECHNICAL SESSION

MONDAY, NOVEMBER 6
2:00 PM - 5:00 PM

ROOM: LASALLE
HOTEL: HILTON

NEW APPROACHES TO PARKING STRUCTURE DESIGN AND CONSTRUCTION

Sponsored by Committee 362

continued

- Design of Modern Parking Structures** 3:35
Mohammad Iqbal, Corporate Chief
Structural Engineer, and Richard Lansu,
Elgin Chief Structural Engineer, Walker
Parking Consultants/Engineers, Inc.,
Elgin, IL
- RMA's Expressway Parking Deck:
Specialized Design Meets Unique
Challenges** 3:55
Ronald W. Stehman, Director of Parking
Services, HNTB Corp., Alexandria, VA,
and John G. Burgan, Project Manager,
HNTB Corp., Milwaukee, WI
- What's New in Parking Structure Design
in Canada** 4:20
Norman R. Webster, President, Read Jones
Christoffersen, Calgary, Alberta
- Bonded Post-Tensioning in Parking
Structures** 4:45
Keith W. Jacobson, Branch Engineer,
VSL Corp., Raleigh, NC

TECHNICAL SESSION

MONDAY, NOVEMBER 6 ROOM: AUDITORIUM
2:00 PM - 5:00 PM HOTEL: RADISSON

HIGH-STRENGTH CONCRETE: PART III

Sponsored by Committee 363 and Concrete Canada

Session Chairman: Henry G. Russell
Engineering Consultant
Henry G. Russell, Inc.
Glenview, IL

Introduction 2:00
Henry G. Russell, Engineering Consultant,
Henry G. Russell, Inc., Glenview, IL

**Application of Maturity Functions for
High-Strength Concrete** 2:10
Roberto C. A. Pinto, Doctoral Candidate,
and Kenneth C. Hover, Professor, School
of Civil and Environmental Engineering,
Cornell University, Ithaca, NY

**Development of Reactive Powder Concrete
Products in the United States Construction
Market** 2:35
Edward F. O'Neil, Research Civil Engineer,
U. S. Army Engineer Waterways Experiment
Station, Vicksburg, MS; Scott K. Gilliland,
Project Engineer, HDR Engineering, Inc.,
Omaha, NE; and Christian E. Dauriac,
Materials Engineer, Scientific Division,
Bouygues S. A., St. Quentin en Yvelines,
France

**The Effect of Elevated Temperatures on
the Behavior of Moisture in Normal and
High-Performance Concretes** 3:00
Naysan Khoylou, Research Student, and
George L. England, Professor, Department
of Civil Engineering, Imperial College of
Science Technology and Medicine,
London, England, UK

continued

TECHNICAL SESSION

MONDAY, NOVEMBER 6 ROOM: **AUDITORIUM**
2:00 PM - 5:00 PM HOTEL: **RADISSON**

HIGH-STRENGTH CONCRETE: PART III

Sponsored by Committee 363 and Concrete Canada

continued

**Effect of Binder Type and Curing on
Early-Age Strength Development for
High-Strength Concrete** 3:25

R. Sri Ravindrarajah, Senior Lecturer, School
of Civil Engineering, University of Technology
at Sydney, Sydney, NSW, Australia

**High-Strength Concrete Slabs Post-Tensioned
with Unbonded Tendons** 3:50

Bernard Espion, Lecturer, and Pierre Halleux,
Professor, Department of Civil Engineering,
Brussels Free University, Brussels, Belgium

**Effect of High-Strength Concrete on
Prestressed Frames** 4:15

Yi-Lung Mo, Professor, and W. L. Hwang,
Doctoral Candidate, Department of Civil
Engineering, National Cheng Kung
University, Tainan, Taiwan, ROC

Discussion 4:40

HOT TOPIC

MONDAY, NOVEMBER 6
2:00 PM - 5:15 PM

ROOM: REGENCY A
HOTEL: RADISSON

PART I: INNOVATIVE AND CONTROVERSIAL USES OF FLY ASH FOR MULTIPLE APPLICATIONS

Sponsored by Hot Topic Committee and
Convention Committee

Session Chairman: Peter G. Snow
Director
Marketing/Technical Services
Western Aggregates, Inc.
Boulder, CO

Session Co-Chairman: Steven R. Close
Principal
JHC Consulting Engineers
Denver, CO

Introduction 2:00
Steven R. Close, Principal, JHC Consulting
Engineers, Denver, CO

Overview 2:05
V. Mohan Malhotra, Head, Concrete
Technology Section, Canada Centre for
Mineral and Energy Technology, Ottawa,
Ontario

Film "Fly Ash: Mining The Sky" 2:15
Natural Resources Canada

Questions and Answers 2:50
V. Mohan Malhotra, Head, Concrete
Technology Section, Canada Centre for
Mineral and Energy Technology, Ottawa,
Ontario

continued

▲ HOT TOPIC

HOT TOPIC

MONDAY, NOVEMBER 6 **ROOM: REGENCY A**
2:00 PM - 5:15 PM **HOTEL: RADISSON**

PART II: THE OKLAHOMA CITY TERRORIST BOMBING

Sponsored by Hot Topic Committee and
Convention Committee

continued

Session Chairman: W. Gene Corley
Vice President
Construction Technology
Laboratories
Skokie, IL

Session Co-Chairman: Steven R. Close
Principal
JHC Consulting Engineers
Denver, CO

Introduction **3:10**
Steven R. Close, Principal, JHC Consulting
Engineers, Denver, CO

**The Oklahoma City Bombing: Structural
Failure Modes Observed On-site** **3:15**
Eve E. Hinman, Senior Staff Engineer,
Failure Analysis Associates, Inc., Menlo
Park, CA

**Blast Resistance Effectiveness of
Neighboring Structures** **3:45**
John A. (Trailer) Martin, Jr., President,
John A. Martin & Associates, Inc.,
Los Angeles, CA

Structural Concrete Inside the Crime Scene **4:15**
R. C. Cornforth, Structural Engineer,
Cornforth Associates, Oklahoma City, OK

Retrospective and the Future **4:45**
A group discussion.

▲ HOT TOPIC



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TECHNICAL SESSION

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: VERRIERE
HOTEL: RADISSON

DATABASES AND KNOWLEDGE SYSTEMS FOR CONCRETE AND RELATED MATERIALS

Sponsored by Committee 126

Session Chairman: William F. Kepler
Civil Engineer
Materials Engineering and
Research Laboratory
U. S. Bureau of Reclamation
Denver, CO

Introduction 9:00
William F. Kepler, Civil Engineer,
Materials Engineering and Research
Laboratory, U. S. Bureau of Reclamation,
Denver, CO

**Concrete Process Control: Making the
Most of Your Information** 9:10
James M. Shilstone, Jr., President, The
Shilstone Companies, Inc., Dallas, TX

**The Use of Tabular Knowledge-Base
Format in Knowledge Acquisition and
Organization for Concrete Construction** 9:35
Awad S. Hanna, Assistant Professor,
The University of Wisconsin at Madison,
Madison, WI

Materials Databases for Aggregate Properties 10:00
Kurt F. von Fay, Civil Engineer, Materials
Engineering and Research Laboratory, U. S.
Bureau of Reclamation, Denver, CO

Barriers to Knowledge Transfer 10:25
David F. Schulz, Director, Infrastructure
Technology Laboratory, Northwestern
University, Evanston, IL

continued

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: VERRIERE
HOTEL: RADISSON

DATABASES AND KNOWLEDGE SYSTEMS FOR CONCRETE AND RELATED MATERIALS

Sponsored by Committee 126

continued

The Role of the Wholewide Web in Knowledge Distribution: A Case Study of the Infrastructure Technology Institute 10:50

Renee E. McHenry, Infrastructure Librarian,
Infrastructure Technology Institute,
Northwestern University, Evanston, IL

Concrete Knowledge-Based Systems in the Year 2005 11:15

Lawrence J. Kaetzel, Computer Specialist,
and James R. Clifton, Leader of Inorganic
Building Materials Group, Building
Materials Division, National Institute of
Standards and Technology, Gaithersburg,
MD

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: LASALLE
HOTEL: HILTON

INNOVATIVE LIGHTWEIGHT CONCRETE SYSTEMS: PART I

Sponsored by Committee 213

Session Chairman: Theodore W. Bremner
Professor
Department of Civil
Engineering
University of New Brunswick
Fredericton, New Brunswick

Introduction 9:00
Theodore W. Bremner, Professor, Department
of Civil Engineering, University of New
Brunswick, Fredericton, New Brunswick

**Production of High-Performance, Modified
Density Concrete for Severe Marine
Environments** 9:05
George C. Hoff, Senior Associate Engineer,
Mobil Research and Development Corp.,
Dallas, TX; Rolf Wallum, Quality Control
Coordinator, Hibernia Management and
Development Co., Bull Arm, Newfoundland;
and Roberto A. Nunez, Research and
Development Engineer, Carolina Staylite Co.,
Salisbury, NC

**Accommodation Mechanisms in Concrete
Containing Fine Lightweight Aggregate** 9:40
Thomas A. Holm, Vice President/Engineering
Department, Solite Corp., Richmond, VA;
Valentina F. Stepanova, Head of Laboratory,
Materials Research Institute of Concrete and
Reinforced Concrete, Moscow, Russia; and
Theodore W. Bremner, Professor, Department
of Civil Engineering, University of New
Brunswick, Fredericton, New Brunswick

continued

★ THEME SESSION

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: LASALLE
HOTEL: HILTON

INNOVATIVE LIGHTWEIGHT CONCRETE SYSTEMS: PART I

Sponsored by Committee 213

continued

**The Achievable Strength and FG of
Lightweight Aggregate Concrete** **10:15**

Tsong Chen, Professor; How-Gi Chen,
Lecturer; and Kai-Zong Huang, Graduate
Student, Department of Civil Engineering,
National Chung-Hsing University, Taichung,
Taiwan, ROC

**Design and Construction of a Lightweight
Prestressed Concrete Crane** **10:50**

Alberto Gomez-Rivas, Associate Professor,
and Bryant B. Rogers, Student, Department
of Engineering, University of Houston -
Downtown, Houston, TX

**Ultra-Lightweight Concrete for the
Industrialized Construction of
Modular Housing** **11:25**

Virgilio A. Ghio, Assistant Professor,
and Guillermo Thenoux, Professor,
Pontificia Universidad Catolica de Chile,
Santiago, Chile

★ THEME SESSION

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: **LACHINE**
HOTEL: **HILTON**

PREDICTING REMAINING SERVICE LIFE

Sponsored by Committee 365

Session Chairman: Paul C. Hoffman
Associate Professor
Department of Civil and
Environmental Engineering
Villanova University
Villanova, PA

Introduction 9:00
Paul C. Hoffman, Associate Professor,
Department of Civil and Environmental
Engineering, Villanova University,
Villanova, PA

**Methods for Predicting the Remaining
Service Life of Concrete** 9:05
James R. Clifton, Leader, Inorganic Building
Materials Group, National Institute of Standards
and Technology, Gaithersburg, MD

**Estimating Service Life and Remaining
Service Life of Concrete Bridges in
Chloride-Laden Environments** 9:30
Richard E. Weyers, Professor, Department of
Civil and Environmental Engineering, Virginia
Polytechnic Institute and State University,
Blacksburg, VA, and Paul C. Hoffman, Associate
Professor, Department of Civil and
Environmental Engineering, Villanova University,
Villanova, PA

**Service Life of Danish Bridge Structures
Exposed to Chloride** 9:55
Carsten F. Henriksen, Bridge Maintenance
Specialist; Vagn Johansen, Chief Consultant;
and Per Goltermann, Senior Structural
Engineer, RH & H Consult, Ramboll,
Hannemann & Hojlund A/S, Copenhagen,
Denmark

continued

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: LACHINE
HOTEL: HILTON

PREDICTING REMAINING SERVICE LIFE

Sponsored by Committee 365

continued

In-Service Evaluation of Nuclear Power Plant Concrete Structures for Continued Service 10:20

Pranab K. Mukherjee, Senior Engineer, and Edward J. McColm, Senior Engineer, Ontario Hydro Technologies, Toronto, Ontario; and Dan J. Naus, Senior Development Staff Member, and Charles B. Oland, Development Staff Member, Oak Ridge National Laboratory, Oak Ridge, TN

Service Life Prediction and its Application in Marine Structures 10:45

Samuel X. Yao, Project Engineer, and Ben C. Gerwick, Chairman, Ben C. Gerwick, Inc., San Francisco, CA; and David Ovidia, Director, and Arun Sudhakar, Civil Engineer, Pacific Gas and Electrical Co., San Francisco, CA

Service Life Prediction of Marine Structures 11:10

Steinar Helland, Vice President; Magne Maage, Professor; and Jan Erik Carlsen, Project Manager, Selmer a.s., Oslo, Norway

Prediction of Lifetime of Concrete on the Basis of Damage and Cracks Modelling 11:35

Leon Michnaevsky, Professor, Aerospace Academy of Ukraine, Institute of Advanced Materials and Technologies, Kiev, Ukraine

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: REGENCY A
HOTEL: RADISSON

INNOVATIVE RESEARCH IN EARTHQUAKE ENGINEERING

Sponsored by Committee 368

continued

Retrofit of Non-Ductile Frames Using Precast Wall Panels **10:20**

Robert J. Frosch, Graduate Research Assistant;
Wanzhi Li, Graduate Research Assistant;
Michael E. Kreger, Associate Professor;
James O. Jirsa, Professor and Janet S. Cockrell,
Centennial Chair in Engineering, Department of
Civil Engineering, Phil M. Ferguson Structural
Engineering Laboratory, The University of Texas
at Austin, Austin, Texas

Displacement-Based Design of Structural Walls: Experimental Studies **10:45**

John W. Wallace, Associate Professor, and
John H. Thomsen IV, Research Associate,
Department of Civil Engineering, Clarkson
University, Potsdam, NY

Implications of Inplane Floor Flexibility on Seismic Design of Concrete Buildings **11:10**

Sashi K. Kunnath, Assistant Professor,
Department of Civil and Environmental
Engineering, University of Central Florida,
Orlando, FL and Nader Panahshahi, Assistant
Professor, Department of Civil Engineering,
Southern Illinois University at Edwardsville,
Edwardsville, IL

★ THEME SESSION

CONTRACTORS' DAY

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: REGENCY B
HOTEL: RADISSON

INNOVATIVE APPROACHES FOR CONTRACTORS TO EXPAND THEIR CUSTOMER BASE: PART I

Sponsored by the Construction Liaison Committee and
the ACI Eastern Ontario and Québec Chapter

Session Chairman: Normand Tétreault
President
Soconex General Contractor,
Inc.
Montréal, Québec

Introduction **9:00**
Normand Tétreault, President, Soconex
General Contractor, Inc., Montréal, Québec

**Bidding System in France and New
Approach with HPC Projects** **9:05**
Didier Brazillier, Department Manager,
Services des grands travaux, Bourges
Cedex, France

Contractor's Viewpoint **9:40**
Stéphane Roi, DALLA VERA, France

**ISO 9000: Local Contractor
Experience** **10:05**
Michel Biard, Director, Ciments
Lavallée Ltd., Laval, Québec

**Nonshrink Backfill (A 0,4 MPa CLSC)
for Utility Trenches: Town of
Montréal's Experience** **10:40**
Gérald Pelletier, Technical Consultant,
and Richard Morin, Civil Engineer,
Department of Engineering Service,
City of Montréal, Montréal, Québec;
and Claude Lupien, Director, Department
of Civil Engineering, Université de
Sherbrooke, Sherbrooke, Québec

continued

CONTRACTORS' DAY

TUESDAY, NOVEMBER 7
9:00 AM - NOON

ROOM: REGENCY B
HOTEL: RADISSON

INNOVATIVE APPROACHES FOR CONTRACTORS TO EXPAND THEIR CUSTOMER BASE: PART I

Sponsored by the Construction Liaison Committee and
the ACI Eastern Ontario and Québec Chapter

continued

**Problems of Soil Excavation under a
Masonry Cathedral: The Contractor's
Viewpoint** **11:05**

Thomas Egli, Structural Engineer, Quinn,
Dressel and Associates, Montréal, Québec

CONTRACTORS' LUNCHEON

ROOM: WESTMOUNT
HOTEL: HILTON

Time: **NOON - 2:00 PM**

Topic: "Toll Highway 407"

Speaker: John M. Beck
Canadian Highways
International Corporation
Mississauga, Ontario

Menu

Vegetable Beef Soup
Chicken Marsala
Parisienne Potatoes
Carrots and Yellow Squash in
Honey Butter
Chocolate Cheesecake
(\$20 U.S.)

EDUCATIONAL SESSION

TUESDAY, NOVEMBER 7
2:00 PM - 3:30 PM

ROOM: REGENCY A
HOTEL: RADISSON

EDUCATIONAL SESSION - PART I: REALISTIC CAPSTONE DESIGN COURSES

Sponsored by Committee E702

Session Chairman: T. Michael Baseheart
Associate Professor
Department of Civil and
Environmental Engineering
University of Cincinnati
Cincinnati, OH

Introduction **2:00**
T. Michael Baseheart, Associate
Professor, Department of Civil and
Environmental Engineering, University
of Cincinnati, Cincinnati, OH

**Multidiscipline Within Civil
Engineering** **2:05**
Mohammad R. Ehsani, Associate Professor,
Department of Civil Engineering,
University of Arizona, Tucson, AZ

Construction Project **2:25**
David W. Johnston, Professor, Department
of Civil Engineering, North Carolina State
University, Raleigh, NC

Multi-Semester Project **2:45**
Donald E. Milks, Professor, Department
of Civil Engineering, Ohio Northern
University, Ada, OH

Structural Project **3:05**
Warner T. Clark, Structural Engineer,
Alabama Concrete Association,
Montgomery, AL

EDUCATIONAL SESSION

TUESDAY, NOVEMBER 7
3:30 PM - 5:30 PM

ROOM: REGENCY A
HOTEL: RADISSON

EDUCATIONAL SESSION - PART II: REPORT WRITING

Sponsored by Committee E702

Session Chairman: Luke M. Snell
Professor
Department of Construction
Southern Illinois University
at Edwardsville
Edwardsville, IL

Session Co-Chairman: Robert P. Barnett
President, Bob Barnett, P.E.
Cropwell, AL

Introduction	3:30
Luke M. Snell, Professor, Department of Construction, Southern Illinois University at Edwardsville, Edwardsville, IL	
Take a Tip From the Poets: Writing a Readable Report	3:35
Shirley L. Brander, Vice President, and Merle E. Brander, President, Brander Construction Technology, Inc., Green Bay, WI	
What Happens When Mother Reads Your Field Reports?	4:00
Robert P. Barnett, President, Bob Barnett, P. E., Cropwell, AL	
Role Playing in the Classroom to Develop Report Writing Skills	4:20
Luke M. Snell, Professor, Department of Construction, Southern Illinois University at Edwardsville, Edwardsville, IL	
Getting Published: What the Editor is Looking For	4:00
William J. Semioli, Editor/Associate Publisher, <i>Concrete International</i> , American Concrete Institute, Detroit, MI	
Closing Comments	5:10
Robert P. Barnett, President, Bob Barnett, P. E., Cropwell, AL	

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
2:00 PM - 5:25 PM

ROOM: AUDITORIUM
HOTEL: RADISSON

OPEN PAPER SESSION

Sponsored by TAC

Session Chairman: T. Russell Gentry
Assistant Professor
Department of Civil Engineering
The Catholic University
of America
Washington, DC

Is Your Precast Concrete Facade Safe? Repair of Precast Concrete Facade Panels and Their Connections 2:00
Predrag L. Popovic, Principal, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL

Short Duration Tests for the Quick Assessment of the Moisture Accumulation Risk in Concrete Structures 2:20
Kazumasa Watanabe, Research Director; Ilya Shligersky, Research Fellow; and Yasunobu Ashie, Research Engineer, Fire Safety Division, Building Research Institute, Tsukuba, Japan

Punching Shear of Reinforced and Prestressed Concrete Flat Slabs 2:40
N. John Gardner, Professor, Department of Civil Engineering, University of Ottawa, Ottawa, Ontario,

Sulfur Polymer Concrete Goes Global 3:00
Alan H. Vroom, President, Sulfurcrete Products, Inc., Calgary, Alberta

Packing of Aggregates: An Alternative Tool to Determine the Optimal Aggregate Mix 3:20
Per Goltermann, Senior Structural Engineer, G. M. Idorn Consult A/S, Virum, Denmark

continued

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
2:00 PM - 5:25 PM

ROOM: AUDITORIUM
HOTEL: RADISSON

OPEN PAPER SESSION

Sponsored by TAC

continued

Microstructural and Mechanical Effects of Latex, Methylcellulose, and Silica Fume on Carbon Fiber Reinforced Cement 3:40

Pu-Woei Chen, Graduate Research Assistant;
Xuli Fu, Graduate Research Assistant; and
Deborah D. L. Chung, Niagara Mohawk
Professor, Composite Materials Research
Laboratory, State University of New York
at Buffalo, Buffalo, NY

Bond and Development Length in Prestressed Concrete Piles 4:00

Nur Yazdani, Professor, Department of Civil
Engineering, Florida A&M University, Tallahassee,
FL, and Jacques Registe, Structural Engineer,
JMI Engineering, Tallahassee, FL

Bond Strength of Reinforced Sulfur Concrete 4:20

Mujahid T. Ali, Senior Design/Research Engineer,
and Tasnim Uddin, President, Tasmin Uddin &
Associates, Miami, FL

The Effect of Curing Temperature on the Strength and Performance Properties of Concrete 4:40

Joseph G. Cabrera, Professor, and B. A. Gaafar,
Department of Civil Engineering, University of
Leeds, Leeds, England, UK

A Study on the Earthquake Response of Liquid Storage Tanks Including Hydrodynamic and Soil Interaction Effects 5:00

Hideaki Nakamura; Sumio Hamada, Professor;
and Shingo Morikawa, Department of Civil
Engineering, Faculty of Engineering, Yamaguchi
University, Ube, Japan

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
2:00 PM - 5:00 PM

ROOM: CARTIER A
HOTEL: RADISSON

DESIGN IN REGIONS OF LOW AND MODERATE SEISMICITY

Sponsored by Committee 368

Session Chairman: Murat Saatcioglu
Professor
Department of Civil
Engineering
University of Ottawa
Ottawa, Ontario

Introduction **2:00**
Murat Saatcioglu, Professor, Department of
Civil Engineering, University of Ottawa,
Ottawa, Ontario

**Moderate Seismic Zone Design of Reinforced
Concrete Structures: U. S. Practice** **2:05**
S. K. Ghosh, Director, Engineering Services
Codes and Standards, Portland Cement
Association, Skokie, IL

**Canadian Practice in Moderate
Seismic Zones** **2:30**
Denis Mitchell, Professor, Department of
Civil Engineering and Applied Mechanics,
McGill University, Montréal, Québec

**Moderate Seismic Zone Requirements for
Reinforced Concrete Buildings** **2:05**
Luis E. Garcia, Civil Engineer, Proyectos
Y. Disenos Ltd., Bogota, Colombia

**Seismic Resistance of Horizontal Joint
Connections in Precast Shearwalls** **3:20**
Arturo E. Schultz, Research Structural
Engineer, National Institute of Standards
and Technology, Gaithersburg, MD

continued

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
2:00 PM - 5:00 PM

ROOM: CARTIER A
HOTEL: RADISSON

DESIGN IN REGIONS OF LOW AND MODERATE SEISMICITY

Sponsored by Committee 368

continued

**Seismic Performance and Retrofit of
Nonductile Concrete Frame Structures** **3:45**

Yahya Kurama, Graduate Research Assistant;
Stephen Pessiki, Assistant Professor; and
Steven Snyder, Associate Professor,
Department of Civil and Environmental
Engineering, Lehigh University, Bethlehem,
PA

**Advantages on the Application of a
Pendular Base Isolation System on
Concrete Structures** **4:10**

Federico Garza-Tamez, Director, GT
Implementacion Antisismica, Monterrey,
Mexico

**Seismic Rehabilitation of a Historic
Nonductile Soft Story Concrete Structure
Using Fluid Viscous Dampers** **4:35**

H. Kit Miyamoto, Chief Engineer, Marr
Shaffer & Associates, Sacramento, CA, and
Roger E. Scholl, President, Counter Quake
Corp., Redwood City, CA

CONTRACTORS' DAY

TUESDAY, NOVEMBER 7 **ROOM: REGENCY B**
2:00 PM - 5:00 PM **HOTEL: RADISSON**

INNOVATIVE APPROACHES FOR CONTRACTORS TO EXPAND THEIR CUSTOMER BASE: PART II

Sponsored by the Construction Liaison Committee
and the ACI Eastern Ontario and Québec Chapter

Session Chairman: Normand Tétreault
 President
 Soconex General Contractor,
 Inc.
 Montréal, Québec

Introduction **2:00**
Normand Tétreault, President, Soconex
General Contractor, Inc., Montréal, Québec

**Nonconventional Bridge Rehabilitation
Projects in Belgium** **2:05**
Robert Degeimbre, Director, Université
de Liège, Liège, Belgium

**Numerous and Innovative Potential
Application for RCC** **2:40**
Claude Gou, Project Manager, DESSAU,
International Ltd., Montréal, Québec

**Markets in Development: China, Hong Kong,
Taiwan and Singapore** **3:15**
Pierre R. Turcotte, Professor, Administration
Faculty, Université de Sherbrooke, Sherbrooke,
Québec

Negotiation of Overseas Contracts **3:50**
David R. Hamilton, Vice President, DESSAU,
Ltd., Montréal, Québec

**Demolition and Recycling of Concrete:
Latest Tools** **4:25**
Yvon Cloutier, Sales Director, Pro-Quip,
Ancienne-Lorette, Québec



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reporting**

developments in concrete technology as in the bimonthly periodical Concrete Abstracts. The CD-ROM covers thirteen years (1982-1994) of international literature. Each year the CD-ROM is updated to include an additional year of literature. The annual subscription service offers each current issue on floppy disk coinciding with the print publication. The search software is easy to use with context-sensitive online Help designed for first-time users.

Each article, report, or book covered is assigned an abstract number and includes the document title, original language of publication (if other than English), keywords, bibliographic information, abstract, and abstract credit. Each floppy disk issue contains 250 abstracts. The 13-Year CD-ROM offers instant reference to 20,000 documents.

Call ACI Member Services Department at (313) 532-2600. Demo disks are available for \$25, which will be credited toward the purchase of any CA QuickSearch package.

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
2:00 PM - 5:00 PM

ROOM: **VERRIERE**
HOTEL: **RADISSON**

INNOVATIVE LIGHTWEIGHT CONCRETE SYSTEMS: PART II

Sponsored by Committee 213

Session Chairman: Theodore W. Bremner
Professor
Department of Civil
Engineering
University of New Brunswick
Fredericton, New Brunswick

Introduction **2:00**
Theodore W. Bremner, Professor,
Department of Civil Engineering,
University of New Brunswick,
Fredericton, New Brunswick

By-Product Lightweight Aggregates **2:05**
Bruce W. Ramme, Operations Manager,
Port Washington Power Plant, Wisconsin
Electric Power Co., Port Washington,
WI; Tim Nechvatal, Vice President,
Minergy Corp., Milwaukee, WI; and
Tarun R. Naik, Director, and Henry
J. Kolbeck, Assistant Director, Centre
For By-Product Utilization, University
of Wisconsin, Milwaukee, WI

**A Novel High-Performance Lightweight
Concrete** **2:45**
Ping Xie, Graduate Student, and Ping Gu,
Graduate Student, Department of Civil
Engineering, University of Ottawa, Ottawa,
Ontario; and James J. Beaudoin, Research
Engineer, Institute for Research in
Construction, National Research Council,
Ottawa, Ontario

continued

★ THEME SESSION

TECHNICAL SESSION

TUESDAY, NOVEMBER 7
2:00 PM - 5:00 PM

ROOM: VERRIERE
HOTEL: RADISSON

INNOVATIVE LIGHTWEIGHT CONCRETE SYSTEMS: PART II

Sponsored by Committee 213

continued

**Lightweight Aggregates: More From
Thermal Power Plant Bottom Ash** 3:25

Irina L. Kondratova, Research Assistant,
Department of Civil Engineering, University
of New Brunswick, Fredericton, New
Brunswick; Lev N. Gorchakov, Director,
Togliatty Power Plant, Togliatty, Russia;
and Victor P. Petrov, Head, Lightweight
Aggregate Production Laboratory, Samara,
Russia

**Durability of Reinforced Concrete with
Natural Porous Aggregates** 4:05

G. Nersesian Nikita, Chief, Department of
Corrosion, Armenian Earthquake Engineering
Research Institute, Yerevan, Republic of
Armenia

★ THEME SESSION

FORUM

TUESDAY, NOVEMBER 7 **ROOM: AUDITORIUM**
7:30 PM - 10:00 PM **HOTEL: RADISSON**

INDUSTRIAL SUPPORT OF CONCRETE RESEARCH: DOES IT OR SHOULD IT EXIST?

Sponsored by Committee 123

Session Moderator: Jan Olek
Assistant Professor
School of Civil Engineering
Purdue University
West Lafayette, IN

Co-Moderator: David C. Seagren
Chief Engineer
Charles Pankow Builders, Ltd.
Altadena, CA

Introduction	7:30
Jan Olek, Assistant Professor, School of Civil Engineering, Purdue University, West Lafayette, IN	
Practical View of Industry Involvement	7:40
George C. Hoff, Senior Associate Engineer, Mobil Research and Development/Offshore Engineering, Dallas, TX	
Contractor's View	7:50
Thomas D. Verti, Vice President, Charles Pankow Builders, Ltd., Altadena, CA	
The Canadian Perspective on Industrial Support for Concrete Research	8:00
Yves Delagrave, Network Manager, Department of Civil Engineering, Concrete Canada, Université de Sherbrooke, Sherbrooke, Québec	
Educator's View	8:10
Herman Yost, Director of Industrial Programs, National Science Foundation Center for Science and Technology of Advanced Cement-Based Materials, Department of Civil Engineering, Northwestern University, Evanston, IL	
A Washington D.C. Perspective	8:20
William H. Plenge, Director, Washington, D.C. Operation, American Concrete Institute, Pasadena, MD	
Discussion	8:30



ACI Concrete Research and Education Foundation

A nonprofit organization formed within ACI which receives, administers and expends funds for educational research and scientific purposes. Three separate councils under ConREF include:

Concrete Research Council (CRC) - identifies research needs and provides funding and technical support to researchers.

International Joints and Bearings Research Council (IJBRC) - advances the knowledge of joints and bearing systems by identifying and encouraging research and development investigations.

Scholarship Council - administers twenty-eight graduate/undergraduate scholarships.

Your financial support of ConREF to provide funds for the Foundation is encouraged and is tax-deductible to the full extent of U.S. law. Contributions may be made to ConREF or to individual councils by sending your check to ConREF, P.O. Box 19150, Detroit, MI 48219.

GENERAL SESSION

WEDNESDAY, NOVEMBER 8

10:00 AM - 1:00 PM

ROOM: MONT ROYAL

HOTEL: HILTON

GENERAL SESSION

Session Chairman: Marc A. Charlebois
Vice President
Marketing and Technical
Services
Anti-Hydro Canada, Inc.
St. Laurent, Québec

Welcome to Montréal

Marc A. Charlebois, Vice President, Marketing and
Technical Services, Anti-Hydro Canada, Inc.,
St. Laurent, Québec

Phil M. Ferguson Lecture "Bring Me Someone Who Has Fallen Off a Roof"

Mete A. Sozen, Kettelhut
Distinguished Professor
of Structural Engineering,
Purdue University,
West Lafayette, IN

Certificates of Appreciation

Introduction of Officers of International Associations

Introduction of International Visitors

Recognition of Chapter Officers Present

Capital Campaign Report

Recognition of Past Presidents Present

continued

GENERAL SESSION

WEDNESDAY, NOVEMBER 8
10:00 AM - 1:00 PM

ROOM: MONT ROYAL
HOTEL: HILTON

GENERAL SESSION

continued

Keynote Address "Creativity and Innovation"

Gaétan Morency is Vice-President of Planning and Development at **Cirque du Soleil**, an enterprise whose annual turnover has grown in ten years from \$1.7 to \$100 million in reinventing one of the oldest forms of live entertainment, the circus.



Creativity and innovation are the very essence of the culture of Cirque du Soleil and Mr. Morency will share with us what they have learned in trying to preserve that culture while becoming a large-scale organization.

The creativity and innovation reflected in the end product of an organization are not the result of random factors. They are embodied in the manner in which power is distributed throughout the business and in the relationships that exist between its pools of expertise. In addition, this must employ creative engineering to tap into their multi-talented employees. In order to achieve this the leader must empower them to come forward.

Closing Remarks

Now Available...

The NEW ACI 318 BUILDING CODE

The new ACI 318-95, *Building Code Requirements for Structural Concrete and Commentary*, provides engineers and designers with a wealth of information that cannot be found elsewhere.

All Code chapters have been updated. The most notable change in the new Code is that references to "reinforced concrete" have been changed to "structural concrete". This modernizes the Code and reflects changes in the state-of-the-art.

Chapter 16 titled *Precast Concrete* has been rewritten to provide detailed requirements for structural integrity. Also, new Chapter 22 has been created which contains the ACI 318.1 *Building Code Requirements for Structural Plain Concrete*.

Additional Major changes include: expanded guidance for slender columns, new provisions for torsional design of reinforced and prestressed concrete, a simplified equation for development length of deformed bars and deformed wires in tension, and an expanded chapter for precast concrete. Included are contractor responsibilities for developing shoring and reshoring plans. Two new appendixes are introduced. The first concerns unified design provisions for reinforced and prestressed concrete flexural and compression members; the second specifies an set of new strength reduction factors compatible with the ASCE 7 load factor combinations.

Throughout the Code the use of permissive language has been minimized. The relation of the ACI 318-95 Code to the legally adopted general building code is clarified.

The combination of the Code and Commentary under one cover provides an easy to use format. The Commentary presents background details, intent of various sections and suggestions for carrying out code requirements. Both are printed in parallel columns, with the Commentary sections adjacent to the corresponding Code sections.

As the world's most sought after and used structural design code, you cannot afford to be without your own individual copy.

Order your copy at the publication sales table in the convention registration area or call in your order to the ACI Member Services Department, (313) 532-2600.

ACI Building Code Requirements for Structural Concrete and Commentary

1995, soft cover, 369 pages
\$92.75 (ACI members \$51.25)
Available November 7, 1995

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8
2:00 PM - 5:00 PM

ROOM: AUDITORIUM
HOTEL: RADISSON

PROPORTIONING CONCRETE USING UNUSUAL AND INNOVATIVE MATERIALS AND METHODS

Sponsored by Committee 211

Session Chairman: Robert S. Jenkins
Corporate Materials Consultant
Law Engineering, Inc.
Atlanta, GA

Introduction 2:00
Robert S. Jenkins, Corporate Materials
Consultant, Law Engineering, Inc., Atlanta, GA

Proportioning Concrete by Computer 2:05
Kenneth W. Day, Director, Concrete Advice Pty
Ltd., Croydon, Victoria, Australia

**Novelties in Computerization of Concrete
Proportioning** 2:25
Sandor Popovics, Professor, Department of Civil
and Architectural Engineering, Drexel University,
Philadelphia, PA, and John S. Popovics,
Assistant Research Professor, Center QEFP,
Northwestern University, Evanston, IL

**Concrete Mixtures Using Treated-Ash-Pellet
Aggregates: Proportioning Considerations
and Mixture Properties** 2:45
Terry L. Viness, Senior Engineer, Law
Engineering, Inc., Atlanta, GA

**Concrete Mixture Used in Ultra Thin
Overlay/Inlay Applications** 3:05
James E. Lunsford, Marketing Services Manager,
Signal Mountain Cement Co., Chattanooga, TN

continued

★ THEME SESSION

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8 ROOM: AUDITORIUM
2:00 PM - 5:00 PM HOTEL: RADISSON

PROPORTIONING CONCRETE USING UNUSUAL AND INNOVATIVE MATERIALS AND METHODS

Sponsored by Committee 211

continued

**Designing a Low-Shrink Concrete Backfill
for a Tunnel Steel Liner Water Main** 3:25
Nausherwan Hasan, Consulting Engineer,
Raytheon Infrastructure Services, Inc.,
New York, NY

**Innovative Approach in Mixture
Proportioning Thanks to Mathematical
Modeling and Computer Technology** 3:45
François de Larrard, Head, Concrete Mix-
Design and Rheology Section, Laboratoire
Central des Ponts et Chaussées, Paris, France

**Proportioning Normal Concrete Mixes for
Durability** 4:05
P. A. M. Basheer, Lecturer in Structures
and Materials; Graeme Herderson, Research
Student; and Adrian E. Long, Professor,
Department of Civil Engineering, The Queen's
University of Belfast, Belfast, Northern
Ireland, UK

**"SmartPlant": An Expert System for On-Line
Process Control** 4:25
James M. Shilstone, Jr., President, The
Shilstone Companies, Inc., Dallas, TX

★ THEME SESSION

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8
2:00 PM - 5:00 PM

ROOM: REGENCY C
HOTEL: RADISSON

INNOVATIVE APPLICATIONS WITH SHRINKAGE-COMPENSATING CONCRETE

Sponsored by Committee 223

Session Chairman: Henry G. Russell
Engineering Consultant
Henry G. Russell, Inc.
Glenview, IL

Session Co-Chairman: Robert J. Gulyas
Manager
Sales/Marketing -
Technical Support
Construction Products
Division
Master Builders, Inc.
Cleveland, OH

Introduction **2:00**
Robert J. Gulyas, Manager, Sales/Marketing -
Technical Support, Construction
Products Division, Master Builders, Inc.,
Cleveland, OH

**Airfield Taxiway Construction Using
Fibrous Concrete with Shrinkage-
Compensating Cement** **2:05**
Stanley M. Herrin, Manager, Airports
Department, Crawford, Murphy & Tilly,
Inc., Springfield, IL

**Architectural Shrinkage-Compensating
Concrete** **2:35**
Edward H. Rubin, Senior Consultant,
CTS Construction Materials Consulting
Group, Inc., Cypress, CA

continued

★ THEME SESSION

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8
2:00 PM - 5:00 PM

ROOM: REGENCY C
HOTEL: RADISSON

INNOVATIVE APPLICATIONS WITH SHRINKAGE-COMPENSATING CONCRETE

Sponsored by Committee 223

continued

Bridge Decks: Wisconsin DOT Experience and Practice 2:55

Gerald H. Anderson, Chief Structural Design Engineer, Wisconsin Department of Transportation, Madison, WI

Utilizing Type K Cement in Waste Containment Structures 3:25

John W. Baker, Head, Department of Civil Engineering, Martin Marietta Energy Systems, Oak Ridge, TN

Atlanta Bonded Warehouse -- Minimizing Parking Lot Joints, Cracks, and Curling 3:55

Jerry A. Holland, Structural Engineering Consultant, Lockwood Greene Engineers, Atlanta, GA

Atlanta Bonded Warehouse -- Minimizing Parking Lot Joints, Cracks, and Curling 3:55

Jerry A. Holland, Structural Engineering Consultant, Lockwood Greene Engineers, Atlanta, GA

Comparative Testing Procedures for Sulfate Resistance with Type K Cement 4:25

Robert J. Gulyas, Manager, Sales/Marketing and Technical Support, Construction Products Division, Master Builders, Inc., Cleveland, OH

★ THEME SESSION

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8
2:00 PM - 5:00 PM

ROOM: REGENCY A
HOTEL: RADISSON

COMPOSITE AND HYBRID CONSTRUCTION: APPLICATIONS, CODES AND RESEARCH, PART II

Sponsored by Committee 335

Session Chairman: Gajanan M. Sabnis
Professor
Department of Civil
Engineering
Howard University
Washington, DC

Session Co-Chairman: Arturo E. Schultz
Research Structural Engineer
Building and Fire Research
Laboratory
National Institute of Standards
and Technology
Gaithersburg, MD

Introduction **2:00**
Gajanan M. Sabnis, Professor, Department
of Civil Engineering, Howard University,
Washington, DC

**Development and Usage of Composite and
Hybrid Building Structures in Japan** **2:05**
Hiroyuki Yamanouchi, Director, Department
of Structural Engineering, and Isao
Nishiyama, Coordinator for International
Research Cooperation, Building Research
Institute, Tsukuba, Japan; and Jun
Kobayashi, Senior Research Engineer,
Taisei Corp., Tokyo, Japan, and Takahiro
Kei, Chief Researcher, Takenaka Corp.,
Tokyo, Japan

continued

★ THEME SESSION

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8
2:00 PM - 5:00 PM

ROOM: REGENCY A
HOTEL: RADISSON

COMPOSITE AND HYBRID CONSTRUCTION: APPLICATIONS, CODES AND RESEARCH, PART II

Sponsored by Committee 335

continued

**Composite Construction: A Review of
Current Pacific Rim Projects** 2:30
Ron Klemencic, Vice President, Skilling
Ward Magnusson Barkshire Inc., Seattle, WA

**Composite Construction in Underground
Structures in Barcelona, Spain** 2:55
Lawrence G. Griffis, Vice President,
Walter P. Moore Associates, Houston, TX

**Seismic Resistance of Composite Structures
in European Practice** 3:20
Amr S. Elnashai, Professor, Engineering
Seismology and Earthquake Engineering
Section, Imperial College, London,
England, UK

Puerta de Europa Twin Leaning Towers 3:45
Monica V. Svojsik, Structural Engineer,
and Richard Zottola, Structural Engineer,
Leslie E. Robertson Associates, Consulting
Structural Engineers, New York, NY

**U. S.-Japan Cooperative Research Program
on Composite and Hybrid Structures** 4:10
Subhash C. Goel, Professor, Department of
Civil and Environmental Engineering,
University of Michigan, Ann Arbor, MI

★ THEME SESSION

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8 ROOM: VERRIERE
2:00 PM - 5:00 PM HOTEL: RADISSON

FIELD PERFORMANCE OF FIBER REINFORCED CONCRETE STRUCTURES OVER 10 YEARS OLD

Sponsored by Committee 544

Session Chairman: Venkataswamy Ramakrishnan
Professor
Department of Civil
Engineering
South Dakota School of Mines
and Technology
Rapid City, SD

Introduction 2:00
Venkataswamy Ramakrishnan, Professor,
Department of Civil Engineering, South
Dakota School of Mines and Technology,
Rapid City, SD

**Performance of a Thin SFRC Lining on an
Embankment** 2:05
Gary R. Mass, Consulting Concrete Engineer,
Littleton, CO

**Innovative Industrial Application of SFRC:
SFRC: A Perspective After 10 Years** 2:30
Lloyd E. Hackman, President, and Mark R.
Farrell, Marketing Manager, Ribbon
Technology Corp., Gahanna, OH

**Polypropylene Fibers Have a Positive
Long-Term Track Record** 2:55
Robert C. Zellers, Executive Vice
President, FORTA Corp., Grove City, PA

**Field Performance of GFRC: Buildings
10 - 20 Years Old** 3:20
Hiram P. Ball, Jr., President, Ball
Consulting Ltd., Ambridge, PA

continued

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8
2:00 PM - 5:00 PM

ROOM: VERRIERE
HOTEL: RADISSON

FIELD PERFORMANCE OF FIBER REINFORCED CONCRETE STRUCTURES OVER 10 YEARS OLD

Sponsored by Committee 544

continued

**Exterior Concrete Fabric-Formed
Structures Reinforced Internally
and/or Externally with Various
Synthetic Fibers** **3:45**

George O. Bergemann, Vice President,
Construction Techniques, Inc., Richmond,
VA, and Kevin L. Slattum, Senior Product
Specialist, Fibers Division, Allied
Signal, Inc., Petersburg, VA

**Steel Fiber Concrete in Marine
Environments** **4:10**

Peter C. Tatnall, Product Manager,
Bekaert Steel Wire Corp., Marietta, GA

**Performance of Steel Fiber Reinforced
Shotcrete Repairs to Berth Faces at the
Port of Saint John** **4:35**

Dudley R. Morgan, Chief Materials
Engineer, AGRA Earth & Environmental
Ltd., Burnaby, British Columbia;
Paul J. Gilbride, Manager, Maintenance
Department, Saint John Port Corp., Saint
John, New Brunswick; and Theodore W.
Bremner, Professor, Department of Civil
Engineering, University of New Brunswick,
Fredericton, New Brunswick

TECHNICAL SESSION

WEDNESDAY, NOVEMBER 8
2:00 PM - 5:00 PM

ROOM: REGENCY B
HOTEL: RADISSON

INNOVATIVE CONCRETE: PART I

Sponsored by the ACI Eastern Ontario and
Québec Chapter

Session Chairman: Michel Pigeon
Director
Interuniversity Research
Centreon Concrete
Université Laval
Québec, Québec

Introduction 2:00

Michel Pigeon, Director, Interuniversity
Research Centre on Concrete, Université Laval,
Ste-Foy, Québec

**Conversion of the Olympic Velodrome to
the Biodome: The Challenge** 2:05

Gilles Michon, Director of Construction Projects,
Régie des installations olympiques,
Montréal, Québec

**First RCC Dam, Lake Robertson Project
in Québec Quality Assurance of
Air-Entrained RCC** 2:45

François Robitaille, Senior Engineer, Hydro-Québec,
Montréal, Québec, and Jacques Beaulieu, Director,
Laboratoire de béton, Montréal, Québec

**Draf Tube with Concrete Form at LA-1
Generating Station** 3:25

Louis Chapdelaine, Project Director, Les
Entreprises Kiewit Ltée, Boisbriand, Québec

**Belgian and European "Recognition" Systems
Systems for the Conformity and Quality of
Products and Techniques for the Protection
and Repair of Concrete Structures** 3:45

Robert Degeimbre, Director, Department of Civil
Engineering, Université de Liège, Liège, Belgium

Development of Durable Dry Shotcrete 4:05

Daniel Vézina, Chief, Concrete Division,
Laboratoire des chaussées, Ministère des Transports
du Québec, Sainte-Foy, Québec

★ THEME SESSION

ACI
Third International Conference
Kuala Lumpur, Malaysia

CALL FOR PAPERS

One of the major objectives of the American Concrete Institute is the rapid dissemination of new concrete technology to ACI members and its associates. To meet this objective, in 1991, ACI introduced a new activity -- to sponsor international conferences on emerging technologies. The first such conference was held in Hong Kong in 1991 and the second conference was held in Singapore during 1994. Both highly-successful conferences were co-sponsored by various other international concrete-related organizations, and regional ACI chapters. The purpose of this Third International Conference is to disseminate new information in the rapidly developing areas of high-performance concrete, and concrete technology where major advances are taking place and new materials, methodologies and techniques are being developed. It is hoped that this conference, like its predecessors, will meet its objective in bringing researchers, practicing engineers and technologists together to exchange new information and to explore new areas of needed research.

Original Papers - High-Performance Concrete Design and Materials Related Topics:

Case Histories in the Use of H.P.C.
Chemical Admixtures, Including Superplasticizers for H.P.C.
Design-Related Papers
Durability Aspects of H.P.C.
H.P.C. for Tropical Climates
H.P.C. Versus High-Strength Concrete
In-place Strength Development for H.P.C.
Lightweight H.P.C.
Mechanical Properties of H.P.C.
Proportions of H.P.C.
Problems Associated with the Production and Placing of H.P.C.
Related Research Needs
Role of Blended Cement for H.P.C.
Role of Fly Ash, Slag, Silica Fume in Development of H.P.C.
Special Material Requirements for H.P.C Mixture
Special Testing Methodology for H.P.C.
Specifications Requirements for H.P.C.
Volume Stability of H.P.C.

Original Papers - Advances in Concrete Technology Topics:

All Aspects of Corrosion
Cellular Concrete
Cement Technology
Chemical and Mineral Admixtures
Coatings for Concrete
Computerized Mixture Proportioning
Crack Measurements
Expansive Cements

(continued)

(continued)

Fatigue of Concrete
Ferrocement
Fiber Reinforced Concrete
Flexural Mechanics
Grouting Technologies
Heavy-Duty Floors
High-Performance Reinforcing Materials
Latex-Modified Concrete
Lightweight Aggregate and Concrete
Non-Destructive Testing
Paving Techniques
Polymer Concrete
Pumping Methodology
Quality Assurance/Control
Radioactive and Hazardous Waste Management
Recycled Concrete
Repair & Rehabilitation Materials
Roller-Compacted Concrete
Shotcrete
Specification Writing
Testing Methodology
Tests for Alkali-Aggregate Reactivity

CONFERENCE DEADLINES

Submission of 200-word abstract

December 15, 1995

**Acceptance of abstracts and
notification of authors:**

February 15, 1996

**Submission of draft manuscript
for review by ACI:**

July 15, 1996

**Acceptance of papers and
notification of authors**

October 1, 1996

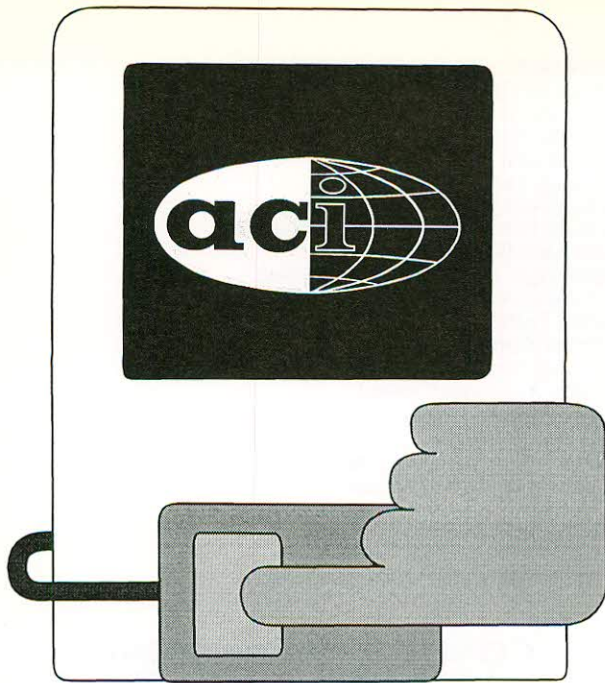
**Submission of final manuscripts typed on
camera-ready paper to be supplied by ACI:**

February 1, 1997

Send 6 copies of your abstract to:

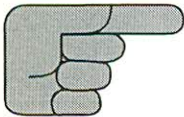
William R. Tolley
American Concrete Institute
22400 W. Seven Mile Road
Detroit, MI 48219-0150





ACI Certification is now as easy as **point and click!**

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To see how the system works, stop by the Sylvan display booth near the ACI registration desk and put your knowledge to the test!

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

American Society for Concrete Construction
American Society for Testing and Materials
Cement and Concrete Reference Laboratory
Concrete Construction Magazine
National Ready Mixed Concrete Association
Portland Cement Association
U.S. Army Corps of Engineers

BUILDING FOR THE FUTURE



**Over
two
million
dollars!**

The Capital Campaign for ACI's headquarters building is still alive. We need your support to reach \$3M this year. Contribute now!

A complete list of contributions will be published in CI after the convention.

TECHNICAL SESSION

THURSDAY, NOVEMBER 9
9:00 AM - NOON

ROOM: LASALLE
HOTEL: HILTON

INNOVATIONS IN NONDESTRUCTIVE TESTING

Sponsored by Committee 228

Session Chairman: Mary J. Sansalone
Associate Professor
Department of Structural
Engineering
Cornell University
Ithaca, NY

Session Co-Chairman: Stephen P. Pessiki
Assistant Professor
Department of Structural
Engineering
Lehigh University
Bethlehem, PA

Introduction **9:00**
Mary J. Sansalone, Associate Professor,
Department of Structural Engineering,
Cornell University, Ithaca, NY

**Recent Experiences with Nondestructive
Evaluation for Condition Assessment of
Concrete Structures** **9:05**
Randall W. Poston, Principal; A. Rhett
Whitlock, Principal; and Keith E. Kesner,
Project Engineer, Whitlock Dalrymple
Poston & Associates, Inc., Manassas, VA

continued

★ THEME SESSION

TECHNICAL SESSION

THURSDAY, NOVEMBER 9
9:00 AM - NOON

ROOM: LASALLE
HOTEL: HILTON

INNOVATIONS IN NONDESTRUCTIVE TESTING

Sponsored by Committee 228

continued

Determining Highway Pavement Thickness Using the Impact-Echo Method 9:30

Mary J. Sansalone, Associate Professor, and Jiunn-Ming Lin, Graduate Research Assistant, Department of Structural Engineering, Cornell University, Ithaca, NY; William B. Strett, Vice President, Impact-Echo Consultants, Inc., Ithaca, NY; Nicholas J. Carino, Research Civil Engineer, National Institute of Standards and Technology, Gaithersburg, MD; and Gary L. Crawford, Project Engineer, Federal Highway Administration, Washington, DC

Nondestructive Testing and Repair of the Concrete Shell at the Kingdome 9:55

Thomas J. Rowe, Consultant, Wiss, Janney, Elstner Associates, Inc., Irving, TX; Aldo O. Delahaza, Project Engineer, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL; and Gary J. Weil, Vice President, EnTech Engineering, Inc., St. Louis, MO

Three-Dimensional Visualization of Concrete Structures 10:20

Michael D. A. Thomas, Assistant Professor, Department of Civil Engineering, University of Toronto, Toronto, Ontario; Hermenegildo Caratin, Senior Research Engineer and Scientist, Concrete and Geo Technologies Group, Ontario Hydro Technologies, Toronto, Ontario; and Diana Wiese, President, MDC Geological Consultants Ltd., Toronto, Ontario

continued

★ THEME SESSION

TECHNICAL SESSION

THURSDAY, NOVEMBER 9
9:00 AM - NOON

ROOM: LASALLE
HOTEL: HILTON

INNOVATIONS IN NONDESTRUCTIVE TESTING

Sponsored by Committee 228

continued

Development of an In-Situ Chloride Migration Test **10:45**

P. A. M. Basheer, Lecturer; Peter Gilleece, Research Student; Alaa A-H Sha'at, Research Assistant; and Adrian E. Long, Professor, Department of Civil Engineering, The Queen's University of Belfast, Belfast, Northern Ireland, UK

Application of Pull-Off Test to Assess the Durability of Bond Between New and Old Concrete Subjected to Deicer Salts **11:10**

Gregory C. Frantz, Professor; Shigen Li, Graduate Research Assistant; and Jack E. Stephens, Professor Emeritus, Department of Civil Engineering, University of Connecticut, Storrs, CT

Interpretation of Radar Test Results **11:35**

John H. Bungey, Professor; Stephen G. Millard, Senior Lecturer; Marcus R. Shaw, Research Associate; and Cledwyn Thomas, Lecturer, Department of Civil Engineering; and Brian A. Austin, Senior Lecturer, Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, England, UK

★ THEME SESSION

TECHNICAL SESSION

THURSDAY, NOVEMBER 9
9:00 AM - NOON

ROOM: VERDUN
HOTEL: HILTON

CONTROLLED LOW-STRENGTH MATERIALS

Sponsored by Committee 229

Session Chairman: William R. Hook
Manager
Marketing Department
Holnam, Inc./Colorado Region
Denver, CO

ACI Committee 229 Report on CLSM 9:00
Wayne S. Adaska, Director of Public
Works, Portland Cement Association,
Skokie, IL

Abandonment for Substandard Bridges 9:25
Don A. Clem, Marketing Director,
Colorado Ready Mixed Concrete
Association, Englewood, CO

New Foaming Agent for CLSM 9:50
Charles K. Nmai, Technical Manager,
Master Builders, Inc., Cleveland, OH

**Boston's Central Artery Project
Utilizes CLSM** 10:15
Richard W. Sullivan, Marketing Manager,
Pozzolanic International Inc., Albany, NY

Flash Fill: A New Flowable Fill 10:40
Charles C. Cassell, Jr., Manager, Civil
Engineering Laboratory, American Electric
Power Service Corp., Columbus, OH

**Development of Strength, Bearing,
Diggability and Subsidence Relationships
for Regular and Quick-Set Flowable Fill** 11:05
Larry L. Kerns, Special Projects Engineer,
City of Tulsa, Oklahoma, Tulsa, OK

**Chemically Reactive CLSM for Radionuclide
Stabilization** 11:30
Christine A. Langton, Fellow Scientist,
Savanna River Technology Center,
Westinghouse Savanna River Co., Aiken, SC

TECHNICAL SESSION

THURSDAY, NOVEMBER 9
9:00 AM - NOON

ROOM: LACHINE
HOTEL: HILTON

NEW APPROACHES TO SHEAR DESIGN

Sponsored by Committee 445

Session Chairman: James G. MacGregor
Professor Emeritus
Department of Civil
Engineering
University of Alberta
Edmonton, Alberta

Current Design Approaches **9:00**

Julio A. Ramirez, Associate Professor, School
of Civil Engineering, Purdue University,
West Lafayette, IN

Compression Field Approaches **9:30**

Michael P. Collins, Professor, Department of
Civil Engineering, University of Toronto,
Toronto, Ontario

Shear Friction **10:00**

David M. Rogowsky, Professor, Department
of Civil Engineering, University of Alberta,
Edmonton, Alberta

Truss Analogy with Shear Friction **10:30**

Karl H. Reineck, Professor, Institut für
Tragwerksentwurf und konstruktion, University of
Stuttgart, Stuttgart, Germany

Members without Transverse Reinforcement **11:00**

Perry E. Adebar, Assistant Professor, Department
of Civil Engineering, University of British
Columbia, Vancouver, British Columbia, and
Karl H. Reineck, Professor, Institut für
Tragwerksentwurf und konstruktion, University of
Stuttgart, Stuttgart, Germany

Design Using Strut-Tie Models **11:30**

Denis Mitchell, Professor, Department of Civil
Engineering and Applied Mechanics, McGill
University, Montréal, Québec

★ THEME SESSION

TECHNICAL SESSION

THURSDAY, NOVEMBER 9
9:00 AM - NOON

ROOM: REGENCY B
HOTEL: RADISSON

INNOVATIVE CONCRETE: PART II

Sponsored by the ACI Eastern Ontario and Québec Chapter

Session Chairman: Pierre-Claude Aïtcin
Scientific Director of
Concrete Canada
Université de Sherbrooke
Sherbrooke, Québec

Introduction **9:00**
Pierre-Claude Aïtcin, Professor, Department of
Civil Engineering, Université de Sherbrooke,
Sherbrooke, Québec

**Seismic Behaviour of Concrete Dams:
Essential Issues** **9:05**
René Tinawi, Professor, and Pierre Léger, Professor,
Department of Civil Engineering, École
Polytechnique de Montréal, Montréal, Québec

**Laboratory Assessment of Potential for
Futre Expansion and Deterioration of
Concrete Affected by AAR** **9:35**
Marc-André Bérubé, Professor; Annie Pedneault,
Student; and Jean Frenette, Department of Geology
and Geological Engineers, Université Laval,
Sainte-Foy, Québec; and Michel Rivest, Senior
Engineer, Hydro-Québec, Montréal, Québec

**Diagnosis of Infrastructure Deterioration
Problems: Latest Tools** **10:15**
Saeed Mirza, Professor, Department of Civil
Engineering and Applied Mechanics, McGill
University, Montréal, Québec

**Rehabilitation Measures for Champlain and
Jacques Cartier Bridges** **10:50**
Glen P. Carlin, Senior Engineer, Jacques
Cartier and Champlain Bridges Inc.,
Longueuil, Québec

Surface Applied Corrosion Inhibitors **11:30**
Bernard Malric, Research and Development,
Locher and Cie, Genève, Switzerland, and
Gilles Auvray, President, Krytex Ltd.,
Boucherville, Québec

★ THEME SESSION

TECHNICAL SESSION

THURSDAY, NOVEMBER 9 ROOM: AUDITORIUM
2:00 PM - 5:00 PM HOTEL: RADISSON

INNOVATIVE TECHNOLOGIES

Sponsored by Committee TTT

Session Chairman: Thomas J. Pasko, Jr.
Director, Advanced Research
Federal Highway
Administration
Annandale, VA

**New Product Evaluations at the Highway
Innovative Technology Evaluation Center** 2:00
Jack R. Croteau, Project Manager, Civil Engineering
Research Foundation, Washington, DC

**CONAD: A Computerized System to Reduce
Variability in Concrete Production** 2:30
Kenneth W. Day, Director, Concrete Advice Pty Ltd.,
Croydon, Victoria, Australia

Evaluation of the Air Void Analyzer 3:00
Donald D. Magura, Senior Structural Engineer,
Construction Technology Laboratories, Inc.,
Washington, DC

**Expanded Glass Aggregate, Self-Insulating
Concrete** 3:30
W. James Sharbaugh, Consultant, Advanced Building
Technologies, Newport Beach, CA

**Construction of Two Experimental Bridges
Using High-Performance Air-Entrained Concrete** 4:00
Louis-Georges Coulombe, Head, Concrete Department,
and Claude Ouellet, Design Engineer, Ministry of
Transport of Québec, Québec City, Québec

**The Use of High-Strength Concrete in
Prestressed Concrete Bridge Girders** 4:30
Henry G. Russell, Engineering Consultant,
Henry G. Russell, Inc., Glenview, IL; Jeffery S. Volz,
Design Engineer, Construction Technology
Laboratories, Inc., Skokie, IL; and Robert N. Bruce,
BOH Chair in Civil Engineering, Department of Civil
Engineering, Tulane University, New Orleans, LA

★ THEME SESSION

TECHNICAL SESSION

THURSDAY, NOVEMBER 9
2:00 PM - 5:00 PM

ROOM: VERRIERE
HOTEL: RADISSON

RESPONSE OF CONCRETE BRIDGES DURING THE NORTHRIDGE EARTHQUAKE

Sponsored by Committee 341

Session Chairman: M. "Saiid" Saiidi
Professor
Department of Civil
Engineering
University of Nevada
Reno, NV

Session Co-Chairman: Robert G. Sexsmith
Associate Professor
Department of Civil
Engineering
University of British Columbia
Vancouver, British Columbia

Introduction **2:00**
M. "Saiid" Saiidi, Professor, Department of
Civil Engineering, University of Nevada,
Reno, NV

**Northridge Earthquake Influence on Bridge
Design Code** **2:05**
Ray Zelinski, Design Engineer, Caltrans,
Sacramento, CA

**Lessons Learned from Bridge Performance
during the Northridge Earthquake** **2:35**
Frieder Seible, Professor, Department
of AMES, University of California at
San Diego, La Jolla, CA

continued

TECHNICAL SESSION

THURSDAY, NOVEMBER 9 ROOM: VERRIERE
2:00 PM - 5:00 PM HOTEL: RADISSON

RESPONSE OF CONCRETE BRIDGES DURING THE NORTHRIDGE EARTHQUAKE

Sponsored by Committee 341

continued

**Shear Strength of Reinforced Concrete
Piers Subjected to Earthquake Effects 3:00**

Colleen M. Konwinski, Graduate Assistant;
Mete A. Sozen, Kettelhut Distinguished
Professor; and Julio A. Ramirez, Professor,
School of Civil Engineering, Purdue
University, West Lafayette, IN

**Improvement of Seismic Performance of
Gavin Canyon Bridge Using Energy
Dissipating Systems 3:30**

Wei F. Chen, Research Associate, and
Maria O. Feng, Assistant Professor,
Department of Civil Engineering,
University of California, Irvine, CA

**Implications of Spatial Variation in the
Ground Motion on the Performance of the
South Bound Separation and Overhead at
the I5/SR14 Interchange 4:00**

Ian G. Buckle, Professor; Andre M. Reinhorn,
Professor; and Vassil K. Simeonov, Graduate
Assistant, National Center for Earthquake
Engineering Research, State University of
New York, Buffalo, NY

**Investigation of Performance of Bridge
Abutments in 1994 Northridge Earthquake 4:30**

Raj Siddharthan, Professor; Mahmoud
El-Gamal, Graduate Assistant; and
Manos A. Maragakis, Professor, Department
of Civil Engineering, University of
Nevada, Reno, NV

TECHNICAL SESSION

THURSDAY, NOVEMBER 9 **ROOM: CARTIER A**
2:00 PM - 5:00 PM **HOTEL: RADISSON**

CONCRETE INSTRUMENTATION AND EXPERIMENTAL TECHNIQUES: A STATE-OF-THE-ART REPORT

Sponsored by Committee 444

Session Chairman: Kirk A. Marchand
Manager, Protective Structures
Structural Engineering
Department
Southwest Research Institute
San Antonio, TX

Session Co-Chairman: John R. Hayes, Jr.
Supervisory Structural
Engineer
U. S. Army Construction
Engineering Research
Laboratory
CECER - FME
Champaign, IL

Introduction	2:00
Kirk A. Marchand, Manager, Protective Structures, Structural Engineering Department, Southwest Research Institute, San Antonio, TX	
Design for Instrumentation	2:10
T. Russell Gentry, Assistant Professor, Department of Civil Engineering, The Catholic University of America, Washington, DC	
Static Load Measurements	2:35
K. Nam Shiu, Senior Engineer, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL	

continued

TECHNICAL SESSION

THURSDAY, NOVEMBER 9
2:00 PM - 5:00 PM

ROOM: REGENCY B
HOTEL: RADISSON

COLD CLIMATE CHALLENGES

Sponsored by the ACI Eastern Ontario and
Québec Chapter

Session Chairman: Gilbert Haddad
Chief Specialist
Concrete/Materials
Department
SNC ♦ Lavalin Inc.
Saint-Laurent, Québec

- | | |
|--|-------------|
| Introduction
Gilbert Haddad, Chief Specialist,
Concrete and Materials Department,
SNC ♦ Lavalin Inc., Saint-Laurent, Québec | 2:00 |
| Concreting of the La Grande Hydroelectric
Complex: 20 Years' Experience
Gilles Verville, Chief, Structure Division,
and Ali Biner, Senior Structural Engineer,
Société d' Énergie de la Baie James, Montréal,
Québec; and Jacques Beaulieu, Director,
Laboratoire de béton, Montréal, Québec | 2:05 |
| Thermal Behavior and Protection of
Concrete Dams in Northern Regions
Mario Veilleux, Senior Engineer, Dam
Safety Department, Hydro-Québec,
Montréal, Québec, and Pierre Léger,
Professor, Department of Civil
Engineering, École Polytechnique
de Montréal, Montréal, Québec | 2:45 |

continued

POST-CONVENTION TECHNICAL SESSION

SATURDAY, NOVEMBER 11
9:00 AM - NOON

ROOM: PORT
SAINT-LOUIS

TO BUILD OR NOT TO BUILD IN HISTORICAL QUEBEC

Sponsored by the ACI Eastern Ontario and
Québec Chapter

Session Chairman: François Saucier
Attaché de recherche
Department of Civil
Engineering
Université Laval
Sainte-Foy, Québec

Introduction **9:00**

François Saucier, Attaché de recherche,
Department of Civil Engineering, Université
Laval, Sainte-Foy, Québec

**Museum of Civilization: The Successful
Integration of a Modern Museum on a
Historical Site** **9:05**

Marie-Claude Dubois, Graduate Student,
and Jacques White, Architect, School of
Architecture, Université Laval,
Sainte-Foy, Québec

The Place D'Youville Skating Rink **9:45**

Luc Jolicoeur, Civil Engineer/Team
Coordinator, Department of Engineering,
Ville de Québec, Québec City, Québec

**The Old Arsenals Parkade: How to
Conciliate Traffic with a Historical Site** **10:25**

Marc des Rivières, Urban Planner/
Parking Coordinator, Ville de Québec,
Québec City, Québec

POST-CONVENTION TECHNICAL SESSION

SATURDAY, NOVEMBER 11 ROOM: PORTE KENT
9:00 AM - NOON

USE OF POLYMERS WITH CONCRETE

Sponsored by Committee 548

Session Chairman: D. Gerry Walters
Senior Research Associate
Reichhold Chemicals, Inc.
Research Triangle Park, NC

Session Co-Chairman: Floyd E. Dimmick, Sr.
Technical Director
Thermal Chem Division
Armitage Industries, Inc.
Elk Grove Village, IL

Introduction	9:00
D. Gerry Walters, Senior Research Associate, Reichhold Chemicals, Inc., Research Triangle Park, NC	
Polymers Reacted During Use: As Adhesives and Binders for Concrete	9:15
Floyd E. Dimmick, Sr., Technical Director, Thermal Chem Division, Armitage Industries, Inc., Elk Grove Village, IL	
Break	10:15
Polymers Formed Before Use: As Adhesives and Modifiers for Concrete	10:30
D. Gerry Walters, Senior Research Associate, Reichhold Chemicals, Inc., Research Triangle Park, NC	
Review, Questions and Answers	11:30

NOTES

PERSONAL LOG

1995 FALL CONVENTION

Delegate's Name _____

SATURDAY, NOVEMBER 4, 1995

8:30 AM • **Educational Seminar:** Outremont(H)
 5:00 PM Troubleshooting Concrete
 Construction

NOON • **Educational Seminar**
 1:00 PM **Luncheon** Portage (H)

SUNDAY, NOVEMBER 5, 1995

8:30 AM - _____

10:00 AM _____

10:00 AM - _____

11:30 AM _____

11:30 AM - _____

1:00 PM _____

1:00 PM - **SESSIONS:**
 5:00 PM Recent Developments in
 Deflection Evaluation of
 Concrete Structures in
 Honor of Dan Branson Regency A(R)

Student Program
 and Competition McGill University

2:00 PM - _____

3:30 PM _____

2:00 PM - **SESSIONS:**
 5:00 PM Creep and Shrinkage
 of Concrete Lasalle/Lachine(H)

High-Strength
 Concrete: Part I Outremont(H)

Short Duration Dynamic
 Loading Westmount(H)

- SEPARATE REGISTRATION FEE

REFER TO PAGE 15 FOR MEETING ROOM LOCATIONS

SUNDAY, NOVEMBER 5, 1995

2:00 PM - **SESSION:**
5:00 PM State of the Art Fiber
Reinforced Plastics in
Concrete Structures **Regency(R)**

2:00 PM - _____

5:00 PM _____

3:30 PM - _____

5:00 PM _____

3:30 PM - _____

6:30 PM _____

5:00 PM - _____

6:30 PM _____

7:00 PM • **Breaking the Ice Dinner** **Outremont(H)**

MONDAY, NOVEMBER 6, 1995

8:30 AM - _____

10:00 AM _____

9:00 AM - **SESSIONS:**
Noon Research in Progress **Auditorium(R)**

High-Strength Concrete: **Westmount(H)**
Part II

Aspects of Blast **Mont Royal(H)**
Resistant Design Design

★ Composite and Hybrid
Construction: Part I **Regency A(R)**

10:00AM - **GUEST OVERVIEW** **Regency C(R)**
11:00AM

10:00 AM - _____

11:30 AM _____

11:30 AM - _____

1:00 PM _____

● SEPARATE REGISTRATION FEE

★ THEME SESSION

MONDAY, NOVEMBER 6, 1995

NOON ● Student Luncheon **Outremont(H)**
2:00 PM - _____
3:30 PM _____
2:00 PM - **SESSIONS**
5:00 PM The Analysis and Design **Mont Royal(H)**
 of Mat Foundations

 New Approaches to Parking
 Structure Design and **Lasalle(H)**
 Construction

 High-Strength
 Concrete (Part III) **Auditorium(R)**

▲ **HOT TOPIC:**
 Fly Ash: Mining in the Sky
 and Oklahoma Bombing **Regency A(R)**
3:00 PM - _____
5:00 PM _____
5:00 PM - _____
6:30 PM _____

TUESDAY, NOVEMBER 7, 1995

8:30 AM - _____
10:00 AM _____
9:00 AM - **SESSIONS:**
NOON Databases and Knowledge
 Systems for Concrete and
 Related Materials **Verriere(R)**

★ Innovative Lightweight
 Concrete Systems: Part I **LaSalle(H)**

 Predicting Remaining
 Service Life **Lachine(H)**

★ Innovative Research in
 Earthquake Engineering **Regency A(R)**

- SEPARATE REGISTRATION FEE
- ▲ HOT TOPIC
- ★ THEME SESSION

TUESDAY, NOVEMBER 7, 1995

9:00 AM - **SESSION:**
 NOON Contractors' Session: **Regency B(R)**
 Part I

10:00 AM _____

11:30 AM _____

11:30 AM _____

1:00 PM _____

NOON • **Contractors' Luncheon**
 2:00 PM

2:00 PM - _____

3:30 PM _____

2:00 PM - **SESSION:**
 3:30 PM Educational Session -
 Realistic Capstone Design
 Courses **Regency A(R)**

2:00 PM - **SESSIONS:**
 5:00 PM Open Paper Session **Auditorium(R)**
 (until 5:25 PM)

★ Innovative Lightweight
 Concrete Systems: Part II **Verriere(R)**

Design in Regions
 of Low and Moderate
 Seismicity **Cartier A(R)**

Contractors' Session:
 Part II **Regency B(R)**

3:30 PM - **SESSION**
 5:30 PM Educational Session -
 Part II: Report Writing **Regency A(R)**

3:30 PM - _____

5:00 PM _____

5:00 PM - _____

6:30 PM _____

7:30 PM - **FORUM 123** - Industrial Support of
 10:00 PM Concrete Research: Does It or
 Should It Exist? **Auditorium(R)**

- SEPARATE REGISTRATION FEE
- ★ THEME SESSION

WEDNESDAY, NOVEMBER 8, 1995

10:00 AM - **General Session** **Mont Royal**
1:00 PM

2:00 PM - _____

3:30 PM _____

2:00 PM - **SESSIONS:**
5:00 PM ★ Proportioning Concrete Using
Unusual and Innovative
Materials and Methods **Auditorium(R)**

★ Innovative Applications with
Shrinkage-Compensating
Concrete **Regency C(R)**

★ Composite and Hybrid
Construction: Part II **Regency A(R)**

Field Performance of
Fiber Reinforced
Concrete Structures
Over 10 Years Old **Verriere(R)**

★ Innovative Concrete - **Regency B(R)**
Part I

3:30 PM - _____

5:00 PM _____

5:00 PM - _____

6:30 PM _____

6:30 PM - **Concrete Mixer** **Montreal Ballroom (H)**
8:00 PM

THURSDAY, NOVEMBER 9, 1995

8:30 AM - _____

10:00 AM _____

9:00 AM - **SESSIONS:**
NOON ★ Innovations in Nondestructive
Testing **Lasalle(H)**

Controlled Low-Strength
Materials **Verdun(H)**

★ THEME SESSION

THURSDAY, NOVEMBER 9, 1995

9:00 AM - **SESSIONS:**
NOON ★ New Approaches to Shear Design **Lachine(H)**
★ Innovative Concrete: Part II **Regency B(R)**
10:00 AM - _____
11:30 AM _____
11:30 AM - _____
1:00 PM _____
2:00 PM - **SESSIONS:**
5:00 PM ★ Innovative Technologies **Auditorium(R)**
Response of Concrete Bridges During the Kobe and Northridge Earthquake **Verriere(R)**
Concrete Instrumentation and Experimental Techniques: A State-of-the-Art Report **Cartier A(R)**
Cold Climate Challenges **Regency B(R)**
2:00 PM - _____
6:30 PM _____

★ THEME SESSION

**ATTENTION
ACI ATTENDEES!**

The 1996 ACI Spring Convention in Denver will begin on Thursday, instead of the usual Sunday pattern. This change in schedule is due to the Con-Agg/Con-Expo Show in Las Vegas which will be held immediately following our convention.

We hope to see you in Denver in a few months!

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**ACI
FUTURE
CONVENTIONS**

**1996 Spring Convention
March 14-19**

**Denver Marriott
Hyatt Regency Denver
Denver, Colorado**

**Convention Theme:
*Infrastructure Durability:
A Concrete Investment for the Future***

**1996 Fall Convention
November 3-8**

**Hyatt Regency New Orleans
New Orleans, Louisiana**

**Convention Theme:
*Disaster Mitigation***

**1997 Spring Convention
April 6-11**

**Seattle Westin Hotel
Warwick Hotel
Seattle, Washington**

**Convention Theme:
*Concrete and the Environment***

**1997 Fall Convention
November 9-14**

**Atlanta Hilton & Towers
Atlanta, Georgia**

**Convention Theme:
*Durability***



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***Thank you for attending the
ACI 1995 Fall Convention.
See you in Denver!***