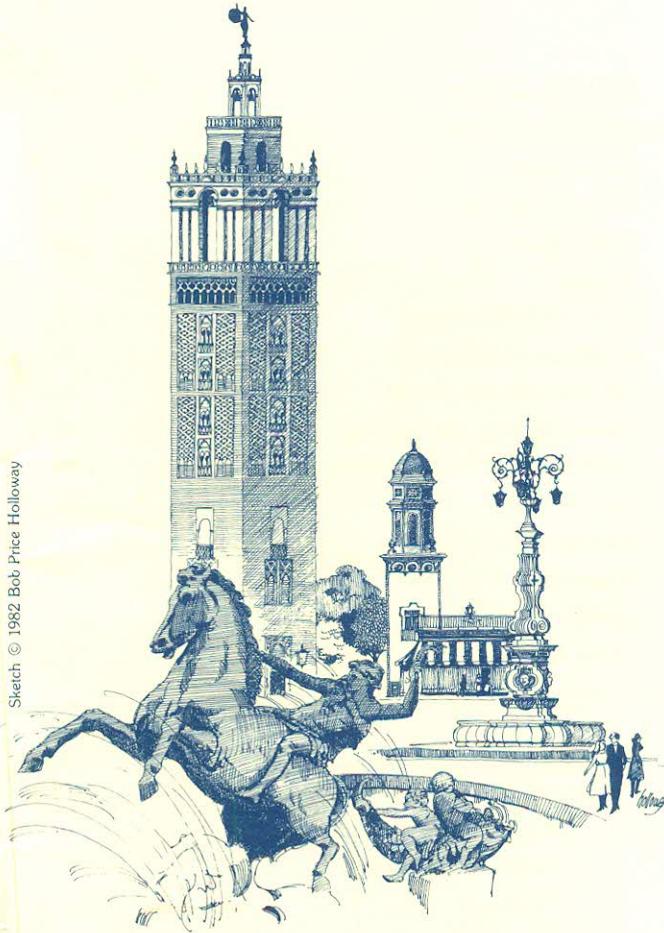


181

# American Concrete Institute 1983

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Sketch © 1982 Bob Price Holloway

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## Fall Convention

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September 25-30, 1983

**KANSAS CITY**

Hyatt Regency Hotel

*Convention Office Copy*

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# TABLE OF CONTENTS

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## ACI Fall Convention

September 25-30, 1983  
Kansas City, Missouri

Sustaining Members .....	3
Registration Information .....	4
Special Events .....	5
Governors' Welcome .....	6, 7
Mayors' Welcome .....	8, 9
Schedule .....	10
ACI Kansas Chapter Officers .....	12
ACI Missouri Chapter Officers .....	13
1983 Fall Convention Committee .....	14
Specialty Meetings and Functions .....	15
<b>COMMITTEE MEETINGS/PROGRAM</b> .....	16
Board of Direction .....	24
Technical Activities Committee .....	25
Educational Activities Committee .....	25
Convention Committee .....	25
Student Activities Program .....	27
<b>Seminars &amp; Forums:</b>	
Seminar: Quality Concrete Construction (Part I, II, III) .....	28, 29
Workshop: Mini-Micro Computer Programs for Concrete Design .....	30
Breakfast Assembly and Rap Session .....	31
Sneak Preview of ACI 318-83 .....	34
History of Concrete .....	35
Innovative Materials and Techniques in Cement Grouting (Part I) .....	36
Open Paper Session (Part I) .....	37
Probability Based Load Combinations for Nuclear Structures .....	38
Research in Progress .....	39
Polymers in Concrete (Part 1) .....	40

Compensating Concrete.....	41
Polymers in Concrete (Part II).....	42
Controlled Low-Strength Materials.....	43
Innovative Materials and Techniques in Cement Grouting (Part II).....	44
George Winter Symposium: Concrete Materials and Structures.....	45
Forum: Inspection of Concrete — How Good Is It?.....	46
Concrete Railroad Ties.....	47
Concrete Sanitary Engineering Structures — Problems and Solutions.....	48
Consolidation of Concrete.....	49
Open Paper Session (Part II).....	50
<b>Film Session</b> .....	26
<b>General Session</b> .....	32
<b>Standards Presentation</b> .....	33
<b>ACI Future Conventions</b> .....	51
<b>Spouse Program</b> .....	52, 53
<b>Sponsors</b> .....	54, 55
<b>Hotel Floor Plans</b> .....	56, 57
<b>Kansas City Convention Area Map</b> .....	58

## SUSTAINING MEMBERS OF THE AMERICAN CONCRETE INSTITUTE

Master Builders  
Division of Martin Marietta Corporation  
Cleveland, Ohio

Portland Cement Association  
Skokie, Illinois

Southwestern Portland Cement Company  
Los Angeles, California

W.R. Grace & Company  
Construction Products Division  
Cambridge, Massachusetts

# REGISTRATION

---

The ACI staff is eager to answer any questions you may have pertaining to the convention.

The registration desk is open to serve you:

Sunday	September 25	1:00 pm- 5:00 pm
Monday	September 26	7:00 am- 5:00 pm
Tuesday	September 27	8:00 am- 5:00 pm
Wednesday	September 28	8:00 am- 5:00 pm
Thursday	September 29	8:00 am- 5:00 pm
Friday	September 30	8:00 am-10:30 am

## Fees:

Member	\$ 80
Nonmember	95
One-day Member	35
One-day Nonmember	40
Student	Free

Registration fees cover attendance at all ACI technical and educational committee meetings, general session, forums, and the Concrete Mixer.

For those who plan to attend the following sessions, there is no fee for attendance, but we do request payment for handout materials:

Workshop: Mini-Micro Programs  
for Concrete Design                      Handout Material Fee \$18.00

Design and Construction of  
Shrinkage Compensating Concrete      Handout Material Fee 12.00

In addition to the above sessions, the Kansas and Missouri Chapters have planned the following:

Seminar: Quality Concrete  
Construction                                      Seminar Fee 25.00

Quality Concrete Construction  
Luncheon    Luncheon Fee 15.00

## Badges

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

Member	White
Nonmember	Peach
Fellow	Yellow
Student	Blue
Spouse	Beige

# SPECIAL EVENTS

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**Publication Display** . . . in the registration area all week. See the latest ACI publications now available. Orders are taken at the ACI Registration Desk which is located on the third level.

**Coffee Bar** . . . Monday through Friday mornings, 8:00 am-10:00 am in the registration area on the third level. Coffee, tea, and Sanka will be available.

**Breakfasts (by invitation only):**

Monday, September 26, 7:00 am TAC/EAC Committee Breakfast	Atlanta A
Tuesday, September 27, 7:00 am Chairmen Training Breakfast	Chouteau B
Wednesday, September 28, 7:00 am 1984 Speakers/Advisors Breakfast	Chouteau A
Thursday, September 29, 7:00 am Session Chairmen Breakfast	Chouteau A

**Rap Session** . . . A complimentary breakfast will be served on Wednesday, from 7:30 am to 8:00 am with Rap Session starting at 8:00 am. This is your opportunity to ask ACI President Norman L. Scott and ACI Executive Vice President George F. Leyh any questions you may have regarding the Institute.

**“Concrete Mixer”** . . . Wednesday, 6:30 pm-8:00 pm in the New York Ballroom. Please be sure to bring your ticket and wear your badge.

**Ladies Programs** . . . have been planned for the women but are not exclusive to them. Check the program in the back of this booklet. There is something of interest for everyone!

**Kansas/Missouri Chapters Dinner Meeting** . . . Come join us on Thursday evening, September 29, for cocktails, dinner and meeting. Please purchase tickets at the Spouse Hospitality Desk in Chicago Ballroom A, Hyatt Regency, Kansas City.



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OFFICE OF THE GOVERNOR

*State Capitol*  
Topeka 66612

September 25, 1983

Greetings!

It is a pleasure as Governor of Kansas to extend a warm welcome as you gather for the Fall Convention of the American Concrete Institute. It is an honor for Kansas to co-host this convention, and I am sure that you will find the coming days both rewarding and enjoyable.

This convention provides a forum for persons interested in the cement and concrete industry to share ideas, discuss problems and meet others from all over the nation who are also involved in the cement and concrete industry.

On behalf of all Kansans—and personally—I offer best wishes for an enjoyable and productive convention.

Sincerely,

A handwritten signature in blue ink that reads "John Carlin".

JOHN CARLIN  
Governor



EXECUTIVE OFFICE  
STATE OF MISSOURI  
P. O. Box 720  
JEFFERSON CITY  
65102

CHRISTOPHER S. BOND  
GOVERNOR

September 25, 1983

GREETINGS:

As Governor of the State, it is my pleasure to extend a warm Missouri welcome to the fall convention of the American Concrete Institute.

Since its organization in 1905, the American Concrete Institute has provided a forum for the discussion and resolution of problems. The professional and technical standard of the organization has remained its hallmark, and its level of activity is now more intense than ever. The theme of the 1983 Fall Convention, "Concrete and Computers," shows the willingness of ACI to keep up-to-date and Kansas City is certainly an appropriate site for such an event.

I hope that you will have time during the convention to visit some of the city's attractions. Kansas City is famous for its lovely parks, its excellent shopping, dining and nightlife, its professional sports teams and fine museums. Art lovers may want to visit the Nelson Gallery, one of the nation's finest art museums. History buffs may want to travel just east to Independence, where the Harry S Truman Library and Museum is to be found. For those whose interests lie in a lighter vein, theme parks abound.

Best wishes for a productive convention and an enjoyable stay in Kansas City.

Sincerely,

GOVERNOR



Office of the Mayor  
Richard L. Berkley, Mayor

29th Floor, City Hall  
Kansas City, Missouri 64106

City of Kansas City, Missouri  
Heart of America

September 25, 1983

Greetings,

On behalf of the people of Kansas City, it is my privilege to extend a sincere welcome to the American Concrete Institute holding its fall convention in Kansas City, Missouri, in September, 1983. I am especially pleased that the Missouri Chapter of the American Concrete Institute will be co-hosting this prestigious meeting.

I know that many of your delegates are from outside of our metropolitan area and, indeed, may be visiting Kansas City for the first time. I hope that you will take time to visit some of our interesting and historic attractions while you are in town. I am sure you will also find the people of our city to be warm and friendly. We are very proud of our growing reputation as the location for many national and international conventions.

Best wishes for an informative and successful meeting. I hope your visit to Kansas City will convince you to return again in years to come.

Sincerely,

*Dick Berkley*  
Richard L. Berkley





CITY OF KANSAS CITY, KANSAS

JOHN E. REARDON, MAYOR



EXECUTIVE CHAMBER  
ONE CIVIC CENTER PLAZA

September 25, 1983

Greetings and welcome to the fall convention of the American Concrete Institute. On behalf of our citizens, I would particularly like to congratulate the Kansas Chapter, an organization rich in corporate commitment.

Kansas City, Kansas offers the visitor delightful opportunities for cultural and educational activities, sports and entertainment but above all, warm and friendly hospitality. I hope that your plans will enable you to take full advantage of the many points of interest in our city.

Best wishes for another successful convention.

Yours truly,

John E. Reardon  
Mayor

# SCHEDULE

---

## **SUNDAY, September 25, 1983**

- 1:00 pm- 5:00 pm Registration Hours  
6:30 pm- 8:00 pm Wine & Cheese Party—Sponsored by ACI  
Kansas/Missouri Chapters

## **MONDAY, September 26, 1983**

- 7:00 am- 5:00 pm Registration Hours  
8:30 am- 9:30 pm Administrative, Technical and Educational  
Committee Meetings  
10:30 am- 6:00 pm All Day Film Session

## **TUESDAY, September 27, 1983**

- 8:00 am- 5:00 pm Registration Hours  
8:30 am- 9:30 pm Administrative, Technical and Educational  
Committee Meetings  
8:30 am- 9:30 pm Quality Concrete Construction (Part I, II, III)  
12:00 pm- 2:00 pm Quality Concrete Construction Luncheon  
\$15.00 (all are invited)  
12:00 pm- 2:00 pm Computer Display  
2:00 pm- 4:00 pm Workshop: Mini-Micro Computer Programs  
for Concrete Design  
4:00 pm- 6:00 pm Computer Display  
5:30 pm- 9:30 pm Student Program

## **WEDNESDAY, September 28, 1983**

- 7:30 am- 8:45 am Rap Session  
8:00 am- 5:00 pm Registration Hours  
8:45 am-12:00 pm General Session  
12:00 pm- 1:00 pm Standards Presentation:  
• 301 Specification and 349 Code  
2:00 pm- 5:00 pm Technical Sessions:  
• Sneak Preview of ACI 318-83  
• History of Concrete  
• Innovative Materials and Techniques in  
Cement Grouting (Part I)  
• Open Paper Session (Part I)  
2:00 pm- 9:30 pm Technical Committee Meetings  
6:30 pm- 8:00 pm Concrete Mixer

## **THURSDAY, September 29, 1983**

- 8:00 am- 5:00 pm Registration Hours  
8:30 am- 9:30 pm Technical Committee Meetings  
9:00 am-12:00 pm Technical Sessions:  
• Probability Based Load Combinations for  
Nuclear Structures (8:30 am-12:30 pm)  
• Research in Progress  
• Polymers in Concrete (Part I)  
• Design and Construction of Shrinkage  
Compensating Concrete

- Polymers in Concrete (Part II)
- Controlled Low-Strength Materials
- Innovative Materials and Techniques in Cement Grouting (Part II)
- George Winter Symposium: Concrete Material and Structures

6:30 pm-10:00 pm

**Kansas/Missouri Chapters Dinner Meeting**

7:30 pm-10:00 pm

**Forum: Inspection of Concrete—How Good Is It?**

**FRIDAY, September 30, 1983**

8:00 am-10:30 am

**Registration Hours**

8:30 am-12:30 pm

**Technical Committee Meetings**

9:00 am-12:00 pm

**Technical Sessions:**

- Concrete Railroad Ties
- Concrete Sanitary Engineering Structures— Problems & Solutions
- Consolidation of Concrete
- Open Paper Session (Part II)

# ACI KANSAS CHAPTER OFFICERS

---

## **President**

Ronald L. Brown  
Dudley Williams and Associates

## **Vice-President**

Andrew Mackie  
Buildex, Inc.

## **Secretary-Treasurer**

Brenda Sietsema

## **Past President**

John T. Van Deurzen  
Van Deurzen and Associates

## **Directors**

Jimmie L. Thompson  
Ash Grove Cement Co.

Jo Coke  
Gifford-Hill and Co., Inc.

David Darwin  
University of Kansas

Steven D. Briman  
Bartlett and West, P. A.

Eldon F. Mockry  
The Marley Cooling Tower Co.

Mark McAfee  
Dudley Williams and Associates

Curt Straub  
Pool and Patio Center, Inc.

# ACI MISSOURI CHAPTER OFFICERS

---

## **President**

Melton J. Stegall  
U.S. Army Corps of Engineers

## **Vice-President**

Paul A. Shenvi  
Marshall & Brown, Inc.

## **Secretary-Treasurer**

Jon B. Ardahl  
Black & Veatch

## **Past President**

Gerry A. Perrigue  
Vonder Haar Concrete Company

## **Directors**

Jerome C. Brendel  
PRC Consoer Townsend & Assoc.

Jack H. Emanuel  
University of Missouri - Rolla

William E. McDonald  
Burns & McDonnell

Tom E. Linkogel  
American Admixtures and Chemical Corp.

Richard Barb  
Engineering Surveys and Services Co.

Larry Schiesl  
Feeney Construction Co.

# 1983 FALL CONVENTION COMMITTEE

---

## General Co-Chairmen

### Kansas Chapter

John T. Van Deurzen  
Van Deurzen and Associates

### Missouri Chapter

Jon B. Ardahl  
Black & Veatch

### Secretary

Robert A. Stude  
Boyd, Brown, Stude & Cambern

### Treasurer

Jon B. Ardahl  
Black & Veatch

### Publicity

John A. Heillman  
Lone Star Industries Inc.

### Finance

Andrew F. Mackie  
Buildex Inc.

### Technical

Jo Coke  
Gifford-Hill Chemical Co.

### Social Programs

Leroy E. Halsted  
Ash Grove Cement Co.

### Concrete Mixer

Eldon F. Mockry  
Marley Cooling Tower Co.

### Student Promotion

Stuart E. Swartz  
University of Kansas State

### Computer Displays

John Van Deurzen  
Van Deurzen and Associates

### Committee Members

David Darwin  
University of Kansas

William E. McDonald  
Burns & McDonnell

Stephen Glass  
LRM, Inc.

Larry Poisner  
General Testing Laboratories

Don and Flossie Jack  
Donald Jack & Associates

Jim and Barbara Thompson  
Ash Grove Cement Co.

Frank Kelly  
Master Builders

The officers, staff and members of ACI would like to thank the Local Committee, the Hostesses, and the Kansas and Missouri Chapters for their part in the 1983 Fall Convention.

# **SPECIALTY MEETINGS AND FUNCTIONS**

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## **QUALITY CONCRETE CONSTRUCTION LUNCHEON**

On Tuesday, September 27, 1983 the Kansas/Missouri ACI Chapters are planning a luncheon in conjunction with their seminar. The luncheon fee is \$15.00. All Convention delegates are invited to purchase tickets and attend (even if you will not be attending the all day seminar).

## **COMPUTER DISPLAY AND WORKSHOP**

ACI Committee E-702 will be sponsoring a Workshop on Mini-Micro Computers for Concrete Design on Tuesday, September 27, from 2:00 pm till 4:00 pm. Prior to the Workshop, there will be a computer display from 12:00 pm - 2:00 pm and also immediately following from 4:00 pm - 6:00 pm. All are invited to attend. (Workshop Hand-out Material may be purchased at the registration desk for \$18.00.)

## **RILEM\*-U.S. NATIONAL GROUP**

**Tuesday, September 27, 1983**

**6:00 pm-8:00 pm Cocktail Reception and Dinner (no host basis)**

**Wednesday, September 28, 1983**

**1:30 pm-5:00 pm RILEM\*-U.S. National Group Meeting**

\*International Union of Testing and Research Laboratories for Materials and Structures.

## **RAP SESSION & CONTINENTAL BREAKFAST**

A complimentary breakfast will be served on Wednesday, September 28, from 7:30 am to 8:00 am with the Rap Session starting at 8:00 am. This is your opportunity to ask ACI President Norman L. Scott and ACI Executive Vice President George F. Leyh any questions you may have regarding the Institute.

## **KANSAS/MISSOURI ACI CHAPTERS DINNER MEETING**

The Kansas/Missouri Chapters will be holding their Chapter Dinner Meeting during the Convention. Come join us on Thursday evening, September 29, for cocktails, dinner and meeting. Please purchase tickets at the ACI registration desk in Kansas City.

# PROGRAM COMMITTEE MEETINGS

Be sure to check the bulletin board  
for last minute changes or added meetings

## SATURDAY/SUNDAY/MONDAY

DAY/TIME	FUNCTION	ROOM
<b>SATURDAY, SEPTEMBER 24, 1983</b>		
8:00 am-5:00 pm	Technical Activities Committee	Van Horn A
<b>SUNDAY, SEPTEMBER 25, 1983</b>		
8:00 am-5:00 pm	Technical Activities Committee (Subgroup 1)	Van Horn B
	Technical Activities Committee (Subgroup 2)	Van Horn A
	Technical Activities Committee (Subgroup 3)	Van Horn C
9:00 am-6:00 pm	Educational Activities Committee	Benton A
6:30 pm-8:00 pm	<b>Wine and Cheese Party: Sponsored by ACI Kansas/Missouri Chapters</b>	Atlanta A
<b>MONDAY SEPTEMBER 26, 1983</b>		
8:30 am-12:30 pm	Technical Activities Committee	Van Horn A
8:30 am-10:30 am		
E702	Designing Structures (2hr)	Van Horn B
E902	Certification (6hr)	Empire C
120	History (2hr)	Chouteau A
123	Research (4hr)	Northrup
211-1	Lightweight (2hr)	Benton A
211-5	Evaluation (2hr)	Fremont
221	Aggregates (4hr)	Van Horn C
303	Architectural (2hr)	Chouteau B
330	Parking Lots (2hr)	Chicago B-1
351-2	Rotating & Reciprocating Mach. (4hr)	Chicago C-1
351-4	Grouting of Equipment & Mach. (4hr)	Chicago C-2
439	Steel Reinforcement (4hr)	Empire B
546	Repair (4hr)	Board Room
10:30 am-5:30 pm	<b>All Day Film Session</b>	Atlanta
10:30 am-12:30 pm		
	Construction Review Committee (2hr)	Van Horn B
E902-1	Field Tech (2hr)	Chouteau A
E902-2	Lab Tech I (2hr)	Empire C
E902-3	Field Tech I (2hr)	Chouteau A
E902-4	Concrete Craftsman (2hr)	Chouteau B
E902-5	Planning (2hr)	Empire C
E902-7	Shotcrete Nozzleman (2hr)	Chouteau B
* 123	Research	Northrup
201	Durability (2hr)	Fremont



DAY/TIME	FUNCTION	ROOM
<b>10:30 am-12:30 pm (continued)</b>		
211-3	High Strength (2hr)	Benton A
211-6	Heavyweight (2hr)	Benton B
* 221	Aggregates	Van Horn C
318	Standard Building Code (2hr)	New York A
* 351-2	Rotating & Reciprocating Mach.	Chicago C-1
* 351-4	Grouting of Equipment & Mach.	Chicago C-2
* 439	Steel Reinforcement	Empire B
517	Accelerated Curing (2hr)	Chicago B-2
* 546	Repair	Board Room
<b>1:00 pm-4:00 pm</b>		
506	Shotcreting (6hr)	Empire B
<b>2:00 pm-4:00 pm</b>		
	Publications Committee (2hr)	Van Horn A
E601	Seminars & Workshops (4hr)	Van Horn B
E701	Construction Materials (4hr)	Van Horn C
*E902	Certification	Empire C
207	Mass Concrete (4hr)	Chicago C-1
211-8	With Admixtures (2hr)	Chouteau A
228	Nondestructive Testing (4hr)	Chicago C-2
315	Detailing of Reinforcement (4hr)	Chicago B-2
318-B	Reinforcement & Development (4hr)	Northrup
318-C	Analysis, Serviceability & Safety (4hr)	Fremont
318-D	Flexure & Axial Loads (4hr)	Benton A
318-F	Two-Way Slabs (4hr)	Benton B
343	Bridge Design (4hr)	Chouteau B
423	Prestressed (4hr)	Board Room
503	Adhesives (4hr)	Chicago B-1
<b>4:00 pm-6:00pm</b>		
	International Activities Comm. (2hr)	Van Horn A
*E601	Seminars & Workshops	Van Horn B
*E701	Construction Materials	Van Horn C
*E902	Certification	Empire C
* 207	Mass Concrete	Chicago C-1
223	Expansive Cement (2hr)	Chouteau A
* 228	Nondestructive Testing	Chicago C-2
* 315	Detailing of Reinforcement	Chicago B-2
* 318-B	Reinforcement & Development	Northrup
* 318-C	Analysis, Serviceability & Safety	Fremont
* 318-D	Flexure & Axial Loads	Benton A
* 318-F	Two-Way Slabs	Benton B
* 343	Bridge Design	Chouteau B
* 423	Prestressed	Board Room
* 503	Adhesives	Chicago B-1
<b>4:00 pm-7:00 pm</b>		
* 506	Shotcreting	Empire B
<b>6:00 pm-8:00 pm</b>		
302	Construction of Floors (2hr)	Chouteau B
<b>6:00 pm-9:30 pm</b>		
351-3	Static Equipment (3½ hr)	Board Room
<b>6:00 pm-10:00 pm</b>		
214	Strength Tests (4hr)	Van Horn B
358	Guideways (4hr)	Northrup

**MONDAY/TUESDAY**

DAY/TIME	FUNCTION	ROOM
<b>7:30 pm-9:30 pm</b>		
E801	Student Concrete Projects (2hr)	Benton A
E903	Chairmen Training (2hr)	Benton B
444	Models of Structures	Fremont

**TUESDAY, SEPTEMBER 27, 1983**

<b>8:30 am-10:30 am</b>		
	Chapter Activities Committee (4hr)	Chouteau A
	Institute & Industry Adv. Comm. (2hr)	Van Horn A
E703	Construction Practices (4hr)	Van Horn B
318-A	General, Concrete & Construction (4hr)	Northrup
318-E	Shear & Torsion (4hr)	Fremont
318-G	Prestressed & Precast Concrete (4hr)	Benton A
318-H	Seismic Provisions (4hr)	Benton B
344	Circular Prestressed Tanks (10 hours)	Empire C
349-1	General Materials Construction (4hr)	Suite
349-2	Design (4hr)	Suite
349-3	Reinforcement Steel (4hr)	Chicago C-1
349-4	Special Provisions (4hr)	Chicago C-2
351	Foundations (Equip.) (4hr)	Empire A
355	Anchorage (8hr)	Van Horn C
359-WG	Testing & Protection (8hr)	Empire B

<b>8:30 am-12:00 pm</b>		
	• <b>Seminar: Quality Concrete Construction (Part I)</b>	Chicago B

<b>10:30 am-12:30 pm</b>		
	*Chapter Activities Committee	Chouteau A
*E-703	Construction Practices	Van Horn B
213	Lightweight Aggregates (2hr)	Chouteau B
* 318-A	General, Concrete & Construction	Northrup
* 318-E	Shear & Torsion	Fremont
* 318-G	Prestressed & Precast Concrete	Benton A
* 318-H	Seismic Provisions	Benton B
* 344	Circular Prestressed Tanks	Empire C
* 349-1	General Materials Construction	Suite
* 349-2	Design	Suite
* 349-3	Reinforcement & Steel	Chicago C-1
* 349-4	Special Provisions	Chicago C-2
* 351	Foundations (Equip.)	Empire A
* 355	Anchorage	Van Horn C
* 359-WG	Testing & Protection	Empire B
523	Insulating & Cellular (2hr)	Van Horn A

<b>12:00 pm-2:00 pm</b>		
	• <b>Luncheon: Quality Concrete Construction</b>	New York B
	• <b>Computer Display</b>	Atlanta

<b>2:00 pm-4:00 pm</b>		
	Educational Activities Comm. (4hr)	Van Horn A
	Membership Committee (2hr)	Suite
	Planning Committee (4hr)	Van Horn B
211-4	Editorial (2hr)	Chicago C-2
222	Corrosion (2hr)	Chouteau B

DAY/TIME	FUNCTION	TUESDAY ROOM
224	Cracking (2hr)	Chouteau A
302	Construction of Floors (4hr)	Benton B
307-1	Earthquakes (2hr)	Benton A
318	Standard Building Code (4hr)	New York A
* 344	Circular Prestressed Tanks	Empire C
349	<i>Nuclear Structures</i> (4hr)	Empire A
* 359-WG	Testing & Protection	Empire B
363	High Strength (4hr)	Northrup
435	Deflection (4hr)	Chicago C-1
506	Shotcreting (4hr)	Fremont
533	Wall Panels (2hr)	Van Horn C
<b>2:00 pm-5:00 pm</b>		
	• <b>Workshop: Mini-Micro Computer Programs for Concrete Design</b>	Atlanta
	• <b>Seminar: Quality Concrete Construction (Part II)</b>	Chicago B
<b>4:00 pm-6:00 pm</b>		
	• <b>Computer Display</b>	Atlanta
	* Educational Activities Committee	Van Horn A
	Metrication Committee (2hr)	Suite
	* Planning Committee	Van Horn B
* 302	Construction of Floors	Benton B
307-2	Wind (2hr)	Benton A
* 318	Standard Building Code	New York A
* 344	Circular Prestressed Tanks	Empire C
* 349	Nuclear Structures	Empire A
* 355	Anchorage	Van Horn C
* 359-WG	Testing & Protection	Empire B
* 363	High Strength	Northrup
* 435	Deflection	Chicago C-1
* 506	Shotcreting	Fremont
<b>5:30 pm-9:30 pm</b>		
	• <b>Student Program</b>	New York B
<b>6:00 pm-8:00 pm</b>		
	• <b>Rilem Reception and Dinner</b>	Outside Hotel
212	Chemical Admixtures (2hr)	Fremont
* 355	Anchorage	Van Horn C
<b>6:00 pm-9:30 pm</b>		
351-4	Grouting of Equipment & Mach. (3½ hr)	Northrup
<b>6:00 pm-10:00 pm</b>		
325	Pavements (4hr)	Van Horn B
360	Design of Slabs on Grade (4hr)	Van Horn A
504	Joint Sealants (4hr)	Benton A
<b>7:00 pm-11:00 pm</b>		
548	Polymers (4hr)	Empire A
<b>7:30 pm-9:30 pm</b>		
	• <b>Seminar: Quality Concrete Constr., (Part III)</b>	Chicago B
215	Fatigue (2hr)	Empire B
* 344	Circular Prestressed Tanks	Empire C
441	Columns (2hr)	Suite
<b>7:30 pm-10:30 pm</b>		
445	Shear & Torsion (3hr)	Benton B

**WEDNESDAY**

DAY/TIME	FUNCTION	ROOM
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**WEDNESDAY, SEPTEMBER 28, 1983****7:30 am-8:45 am**

- **Rap Session**
- Continental Breakfast Atlanta

**8:45 am-9:00 am**

- **Kansas City Slide Presentation** New York

**8:30 am-10:30 am**

- |       |                                  |            |
|-------|----------------------------------|------------|
| 117   | Tolerances (4hr)                 | Benton B   |
| 216   | Fire Resistance (2hr)            | Empire A   |
| 306   | Cold Weather (4hr)               | Van Horn A |
| 307-3 | Ultimate Design/Chimneys (2hr)   | Benton A   |
| 308   | Curing (4hr)                     | Van Horn B |
| 332   | Residential (4hr)                | Fremont    |
| 344   | Circular Prestressed Tanks (2hr) | Empire B   |
| 530   | Masonry Structures (6hr)         | Van Horn C |
| 544   | Fiber Reinforced (8hr)           | Northrup   |
| 545   | Railroad Ties (4hr)              | Empire C   |
| 547   | Refractory (8hr)                 | Chouteau B |
| 552   | Cement Grouting (4hr)            | Suite      |

**9:00 am-12:00 pm**

- **General Session** New York

**10:30 am-12:30 pm**

- |       |                     |            |
|-------|---------------------|------------|
| * 117 | Tolerances          | Benton B   |
| 211   | Proportioning (2hr) | Empire A   |
| * 306 | Cold Weather        | Van Horn A |
| 307   | Chimneys (2hr)      | Benton A   |
| * 308 | Curing              | Van Horn B |
| * 332 | Residential         | Fremont    |
| * 530 | Masonry Structures  | Van Horn C |
| * 544 | Fiber Reinforced    | Northrup   |
| * 545 | Railroad Ties       | Empire C   |
| * 547 | Refractory          | Chouteau B |
| * 552 | Cement Grouting     | Suite      |

**12:00 pm-1:00 pm**

- **Standards Presentation** New York

**1:00 pm-3:00 pm**

- Standards Board (2hr) Board Room

**1:00 pm-5:00 pm**

- Convention Committee (4hr) Empire A

**1:30 pm-5:00 pm**

- Rilem - U.S. National Group Van Horn B

**2:00 pm-4:00 pm**

- |       |                                  |            |
|-------|----------------------------------|------------|
|       | Construction Liaison Comm. (2hr) | Van Horn A |
| 116   | Notation & Nomenclature (4hr)    | Chouteau A |
| 226-1 | Fly Ash (2hr)                    | Fremont    |
| 311   | Inspection (4hr)                 | Empire B   |
| 345   | Bridge Construction (4hr)        | Empire C   |
| * 530 | Masonry Structures               | Van Horn C |
| * 544 | Fiber Reinforced                 | Northrup   |
| * 547 | Refractory                       | Chouteau B |
| 551   | Tilt-up (4hr)                    | Benton A   |
| 553   | Swimming Pools (4hr)             | Benton B   |

**WEDNESDAY/THURSDAY**

DAY/TIME	FUNCTION	ROOM
<b>2:00 pm-5:00 pm</b>		
	• Sneak Preview of ACI 318-83	New York A
	• History of Concrete	Chicago C
	• Innovative Materials and Techniques in Cement Grouting (Part I)	Chicago B
	• Open Paper Session (Part I)	Atlanta
<b>4:00 pm-6:00 pm</b>		
* 116	Notation & Nomenclature	Chouateau A
122	Energy Conservation (2hr)	Van Horn C
209	Creep & Shrinkage (2hr)	Board Room
226-2	Slag (2hr)	Fremont
301-TG	SRC-81 (2hr)	Van Horn A
* 311	Inspection	Empire B
* 345	Bridge Construction	Empire C
* 544	Fiber Reinforced	Northrup
* 547	Refractory	Chouateau B
* 551	Tilt-up	Benton A
* 553	Swimming Pools	Benton B
<b>6:30 pm-8:00 pm</b>		
	• Concrete Mixer	New York
<b>7:30 pm-9:30 pm</b>		
554-C	Task Group (2hr)	Benton B
554-K	Task Group (2hr)	Benton A
<b>8:00 pm-10:00 pm</b>		
348	Safety (2hr)	Van Horn A

**THURSDAY, SEPTEMBER 29, 1983**

<b>8:30 am-10:30 am</b>		
121	Quality Assurance (6hr)	Van Horn B
226	Fly Ash, Slag, etc. (2hr)	Empire A
304	Measuring, Mixing, Trans/Placing (4hr)	Northrup
309-Sub	Subcommittees 1, 2, 3, 4 (2hr)	Empire B
336	Footings (4hr)	Van Horn A
352	Joints (2hr)	Benton A
359-WG	Liners (6hr)	Atlanta B-1
359-WG	Reinforcing of Prestressing (6hr)	Atlanta B-2
359-WG	Concrete (6hr)	Van Horn C
530	Masonry Structures (6hr)	Empire C
547	Refractory (6hr)	Board Room
554	Bearing Systems (4hr)	Fremont
<b>8:30 am-12:30 pm</b>		
	• Probability Based Load Combinations for Nuclear Structures	Chicago C
<b>9:00 am-12:00 pm</b>		
	• Research in Progress	New York B
	• Polymers in Concrete (Part I)	New York A
	• Design and Construction of Shrinkage Compensating Concrete	Chicago B
<b>9:00 am-6:00 pm</b>		
	Board of Direction (8hr)	Chouateau B
<b>10:30 am-12:30 pm</b>		
* 121	Quality Assurance	Van Horn B
301	Structural Specifications (7hr)	Empire A
* 304	Measuring, Mixing, Trans/Placing	Northrup

**THURSDAY**

DAY/TIME	FUNCTION	ROOM
<b>10:30 am-12:30 pm (cont'd)</b>		
309-Sub	Subcommittees 5, 6, 7, 8 (2hr)	Empire B
* 336	Footings	Van Horn A
347	Formwork (8hr)	Benton A
* 359-WG	Liners	Atlanta B-1
* 359-WG	Reinforcing of Prestressing	Atlanta B-2
* 359-WG	Concrete	Van Horn C
* 530	Masonry Structures	Empire C
* 547	Refractory	Board Room
* 554	Bearing Systems	Fremont
<b>1:00 pm-4:00 pm</b>		
359-Sub	Design (5hr)	Benton B
<b>2:00 pm-3:00 pm</b>		
118/225	Computers/Hydraulic Cements (4hr)	Fremont
225/118	Hydraulic Cements/Computers (4hr)	Fremont
<b>2:00 pm-4:00 pm</b>		
* 121	Quality Assurance	Van Horn B
* 301	Structural Specifications	Empire A
* 347	Formwork	Benton A
350	Sanitary Engineering Structures (4hr)	Empire B
* 359-WG	Liners	Atlanta B-1
* 359-WG	Reinforcing of Prestressing	Atlanta B-2
* 359-WG	Concrete	Van Horn C
442	Lateral Forces (4hr)	Van Horn A
* 530	Masonry Structures	Empire C
* 547	Refractory	Board Room
<b>2:00 pm-5:00 pm</b>		
	• <b>Polymers in Concrete (Part II)</b>	New York A
	• <b>Controlled Low-Strength Materials</b>	Chicago C
	• <b>Innovative Materials and Techniques in Cement Grouting (Part II)</b>	Chicago B
	• <b>George Winter Symposium: Concrete Material and Structures</b>	New York B
<b>3:00 pm-4:00 pm</b>		
225-1	Mathematical Modeling (1hr)	Northrup
<b>3:00 am-6:00 pm</b>		
118	Computers (3hr)	Fremont
<b>4:00 pm-6:00 pm</b>		
E901	Scholarships (2hr)	Chouteau A
227	Radioactive Waste Management (2hr)	Van Horn B
309	Consolidation (2hr)	Empire C
* 347	Formwork	Benton A
* 350	Sanitary Engineering Structures	Empire B
* 359-Sub	Design	Benton B
359-Sub	Materials, Constr. & Exam. (2hr)	Van Horn C
* 442	Lateral Forces	Van Horn A
543	Piles (2hr)	Board Room
<b>4:00 pm-7:00 pm</b>		
225	Hydraulic Cements (3hr)	Northrup
* 301	Structural Specifications	Empire A

DAY/TIME	FUNCTION	ROOM
<b>6:00 pm-8:00 pm</b>		
348	Safety (2hr)	Van Horn A
<b>6:00 pm-10:00 pm</b>		
357	Offshore Structures (4hr)	Van Horn C
<b>6:30 pm-10:30 pm</b>		
	<b>Kansas/Missouri Chapters</b>	
	<b>Dinner Meeting</b>	Atlanta
<b>7:30 pm-9:30 pm</b>		
* 347	Formwork	Benton A
549	Ferrocement (2hr)	Van Horn B
<b>7:30 pm-10:00 pm</b>		
	• <b>Forum: Inspection of Concrete— How Good Is It?</b>	Chicago B & C

## FRIDAY, SEPTEMBER 30, 1983

<b>8:00 am-2:00 pm</b>		
359	Nuclear Vessels (6hr)	Empire A
<b>8:30 am-10:30 am</b>		
210	Erosion in Hydraulic Structures (2hr)	Northrup
340	Strength Design Handbook (4hr)	Chouteau A
362	Parking Structures (4hr)	Van Horn C
364	Rehabilitation (4hr)	Benton B
408	Bond & Development of Reinf. (4hr)	Van Horn B
437	Strength of Structures (4hr)	Benton A
<b>8:30 am-5:00 pm</b>		
531	Concrete Masonry Structures (8½ hr)	Chouteau B
<b>9:00 am-12:00 pm</b>		
	• <b>Concrete Railroad Ties</b>	Chicago B
	• <b>Concrete Sanitary Engineering Structures— Problems and Solutions</b>	Empire B & C
	• <b>Consolidation of Concrete</b>	Chicago C
	• <b>Open Paper Session (Part II)</b>	Atlanta
<b>10:30 am-12:30 pm</b>		
* 340	Strength Design Handbook	Chouteau A
* 362	Parking Structures	Van Horn C
* 364	Rehabilitation	Benton B
* 408	Bond & Development of Reinf.	Van Horn B
* 437	Strength of Structures	Benton A

# **AMERICAN CONCRETE INSTITUTE**

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# FILM SESSION

MONDAY, September 26, 1983

10:30 am-5:30 pm

Room: Atlanta Ballroom

TIME First Showing	TIME Second Showing	FILM
10:30 am	1:40 pm	<b>“Prestressed Concrete Pavement Highway Construction - Dulles International Airport”</b> Source: Federal Highway Administration
11:10 am	2:20 pm	<b>“RCD Construction Method, Shemajegawa Dam, Japan”</b> Source: Cement Association of Japan
11:45 am	2:50 pm	<b>“Concrete Pavement Restoration”</b> Source: General Electric, Engineered Materials Group
12:10 pm	3:15 pm	<b>“Flowing Concrete”</b> Source: Material Service Chicago
12:25 pm	3:30 pm	<b>“Concrete for Durability”</b> Source: Master Builders
12:45 pm	3:50 pm	<b>“Prestressed Concrete Pavement Construction in Competition with Continuously Reinforced Concrete Highway Construction in Mississippi”</b> Source: Federal Highway Administration
1:20 pm	4:25 pm	<b>“Performance Concrete”</b> Source: Master Builders
	5:00-5:30 pm	<b>Open for Film Requests</b>

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# STUDENT ACTIVITIES SESSION

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TUESDAY, SEPTEMBER 27, 1983

5:30 pm-9:30 pm

Ballroom: New York B

## STUDENT PROGRAM

Sponsored by ACI Committee E-801

**Session Chairman:** R. John Craig  
Associate Professor  
Department of Civil and  
Environmental Engineering  
New Jersey Institute of Technology  
Newark, New Jersey

**Moderator:** Luke M. Snell  
Consultant/Associate Professor  
Southern Illinois University  
Edwardsville, Illinois

This program has three main goals:

1. Create student interest and familiarity with ACI
2. Stimulate some interest in working concrete projects at both the undergraduate and graduate levels
3. Show students some of the existing careers in concrete construction and design

The program is geared for the following:

1. Students—undergraduate and graduate
2. General members of ACI
3. Those interested in Committee E-801 activities

### PROGRAM

5:30 pm Concrete Flying Saucer Contest  
Located in open area adjacent to Hyatt Regency Hotel  
(see target set up)

7:30 pm E-801 Student Activities  
R. John Craig, Chairman, E-801 Committee  
Careers Related to Concrete Construction and Design  
Merle Brander, President, Brander Construction  
Technology, Greenbay, Wisconsin  
Modeling of Precast Concrete Structures  
Harry Harris, Professor, Civil Engineering Department  
Drexel University, Philadelphia, Pennsylvania  
Presentation of Papers by Students  
Social Hour

### PHOTO CONTEST

The entries for the Third Annual Student Photo Contest are on display at the Student Concrete Projects Display table. Please vote for 1st, 2nd, and 3rd place using ballots in your ACI information packets.

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# TECHNICAL SESSIONS

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**TUESDAY, September 27, 1983**

8:30 am-9:30 pm

Ballroom: **Chicago B**

## **SEMINAR: QUALITY CONCRETE CONSTRUCTION**

Sponsored by the ACI Kansas and Missouri Chapters

**Session Chairman:** Jo Coke  
Gifford-Hill Chemical  
Lenexa, Kansas

### **PART I**

#### **The Contractor and ACI**

Eugene Boeke, Vice President, Beers Construction Company, Atlanta, Georgia

#### **Concrete Specifications**

George Frey, Vice President, Werner Maintenance Company, Columbus, Ohio

#### **Simplified Design of Formwork**

Paul H. Sommers, Chief Engineer, Algernon Blair, Inc., Montgomery, Alabama

#### **Tolerances in Concrete Structures**

W. Robert Little, Vice President, Construction, The Landmarks Group, Atlanta, Georgia

#### **Selecting the Right Computer Software**

John Maulsby, Constructive Computing, Inc., Kansas City, Kansas

### **PART II**

#### **Engineering of Concrete Materials**

Douglas W. Deno, Technical Marketing Manager, Trinity Metroplex Division, General Portland, Inc., Dallas, Texas

#### **Concrete Slab (on Grade) Construction**

Armand Gustaferro, Consulting Engineer, The Consulting Engineers Group, Inc., Glenview, Illinois

#### **The Precaster's Past on the Quality Construction Team**

Francis J. Jacques, Senior Vice President, Engineering and Research, Stanley Structures, Denver, Colorado

Question/Answer Panel

**PART III**

**Cause & Prevention of Failures**

Dov Kaminetzky, President, Feld, Kaminetzky & Cohen, P.C., New York, New York

**The Economy of Quality Admixtures**

Philip A. Smith, Chief Engineer, Gifford-Hill & Company, Inc., Chemical Division, Charlotte, North Carolina

**Your Ready-Mixed Concrete Supplier—A Member of the Team**

Richard C. Meininger, Director of Engineering Research, National Ready-Mix Concrete Association, Silver Spring, Maryland

Seminar Fee	\$25.00
Luncheon	\$15.00

Please purchase your tickets at the registration desk.

**TUESDAY, SEPTEMBER 27, 1983**

12:00 pm-2:00 pm Computer Display

Ballroom: Atlanta

2:00 pm-4:00 pm Workshop

4:00 pm-6:00 pm Computer Display

**WORKSHOP: MINI-MICRO COMPUTER  
PROGRAMS FOR CONCRETE DESIGN**

Sponsored by ACI Committee E-702

**Session Chairman:** Luke M. Snell  
Consultant/Associate Professor  
Southern Illinois University  
Edwardsville, Illinois

**Industrial Floor Slabs: A Thickness Solution**

Boyd C. Ringo, Professor, University of Cincinnati, Department of Civil Engineering, Cincinnati, Ohio; Ronald Steenkan, University of Cincinnati, Cincinnati, Ohio

**Strength and Stiffness of Round Columns**

Neil T. Cichy, Staff Engineer, Packer Engineering Association, Inc., Naperville, Illinois; Albert J. Gouwens, Director of Structural Engineering, Packer Engineering Association, Inc., Naperville, Illinois

**Footing Design with Programmable Calculator**

Donald E. Milks, Professor and Chairman of Civil Engineering, Ohio Northern University, Ada, Ohio

**Reinforced Concrete Column Design**

Grant T. Halvorsen, Assistant Professor of Civil Engineering, West Virginia University, Morgantown, West Virginia

**Anchor Bolt Design**

Phillip N. Kirchner, Senior Engineer, Gilbert/Commonwealth, Midland, Michigan; Joseph McMaster, Senior Engineer, Gilbert/Commonwealth, Midland, Michigan

**Computer Design of Concrete Beams**

Julian Snyder, Principal, Van Wert, Snyder, Sklarsky & Rowley, Buffalo, New York; Peter H. Grace, Associate, Van Wert, Snyder, Sklarsky & Rowley, Buffalo, New York

**Acceptance and Statistical Evaluation of Structural Concrete**

Norval Wallace, Professor, Southern Illinois University, Edwardsville, Illinois; Luke M. Snell, Consultant/Associate Professor, Southern Illinois University, Edwardsville, Illinois

“Design of Structural Concrete  
Computer Program  
Series” \$18.00

This material may be purchased  
at the registration desk.

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## **BREAKFAST ASSEMBLY**

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**WEDNESDAY, SEPTEMBER 28, 1983**

7:30 am-8:45 am

Ballroom: **Atlanta**

### **BREAKFAST ASSEMBLY AND RAP SESSION**

A complimentary breakfast will be served from 7:30 am to 8:00 am with the Rap Session starting at 8:00 am.

WHAT DO YOU WANT TO KNOW  
ABOUT ACI?

Norman L. Scott  
President  
&  
George F. Leyh  
Executive Vice President

Invite YOU to Ask Them.

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# GENERAL SESSION

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WEDNESDAY, SEPTEMBER 28, 1983

8:45 am-12:00 pm

Ballroom: **New York**

## GENERAL SESSION

**Session Chairman:** John Van Deurzen  
General Co-Chairman  
1983 Fall Convention  
Van Deurzen and Associates  
Overland Park, Kansas

### **Welcome to Kansas City**

John Van Deurzen, General Co-Chairman, 1983 Fall Convention, ACI Kansas Chapter

### **Raymond E. Davis Lecture: Concrete Energy and Durability**

Gunnar M. Idorn, Research Consultant, G.M. Idorn Consult Aps, Naerum, Denmark

### **Certificates of Appreciation for the 1983 Fall Convention**

### **Introduction of Foreign Visitors**

### **Introduction of Chapter Officers**

### **Presentation of Bylaws Revision**

### **Concrete: The Long Range Prospects**

Presented by the ACI Planning Committee

**Chairman:** W. Burr Bennett  
President  
W. Burr Bennett, Ltd.  
Chicago, Illinois

### ***The Prospects for Concrete Construction Globally***

Fred Moavenzadeh, Professor, Center for Construction Research and Education, Massachusetts Institute of Technology, Cambridge, Massachusetts

### ***The Prospects for Concrete Construction in North America***

Ben C. Gerwick, Jr., Professor, San Francisco, California

### ***Prospective Changes in Concrete Materials***

Robert Philleo, Office of Chief Engineer, Washington, D.C.

### ***Prospective Changes in Design of Concrete Structures***

James MacGregor, Professor, University of Alberta, Civil Engineering, Edmonton, Alberta, Canada

### ***Summary: The Long-Range Prospects***

W. Burr Bennett, President, W. Burr Bennett, Ltd., Chicago Illinois



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# STANDARDS PRESENTATION

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WEDNESDAY, SEPTEMBER 28, 1983

12:00 pm - 1:00 pm

Ballroom: **New York**

## STANDARDS PRESENTATION

**Session Chairman:** Norman L. Scott  
ACI President  
President, Consulting Engineers Group  
Glenview, Illinois

**Proposed Revision of ACI 301-72 (revised 1981) "Specifications for Structural Concrete for Buildings"**

David P. Gustafson, Chairman, ACI Committee 301, Concrete Reinforcing Steel Institute, Schaumburg, Illinois

**Proposed Revision for ACI 349-80 "Code Requirements for Nuclear Safety Related Concrete Structures"**

Frederick L. Moreadith, Chairman, ACI Committee 349, Gilbert Associates, Inc., Reading, Pennsylvania

**WEDNESDAY, SEPTEMBER 28, 1983**

2:00 pm-5:00 pm

Ballroom: **New York A**

**SNEAK PREVIEW OF ACI 318-83**

Sponsored by ACI Committee 318

**Session Chairman:** Chester P. Siess  
Professor Emeritus  
University of Illinois  
Civil Engineering Department  
Urbana, Illinois

Slide presentation of "what's coming" in the 1983 edition of the ACI Building Code (ACI 318-83). Code revisions for 1983 range from minor clarifications of existing provisions, to major revision of some of the design rules for reinforced concrete . . . including four completely updated chapters: Concrete Quality, Walls, Shells and Folded Plates, and Special Provisions for Seismic Design. A must session for users of the ACI Code.

Presented by members of ACI Committee 318: Standards Building Code.

**WEDNESDAY, SEPTEMBER 28, 1983**

2:00 pm-5:00 pm

Ballroom: **Chicago C****HISTORY OF CONCRETE**

Sponsored by ACI Committee 120

**Session Chairman:** Raymond C. Heun  
Executive Director  
New York Concrete Construction  
Institute  
New York, New York

**Perspectives on the History of Concrete**

Howard Newlon, Jr., Director, Virginia Highway Research Council, Charlottesville, Virginia; Emory L. Kemp, Professor, West Virginia University, Morgantown, West Virginia

**A Survey of Concrete Technology in Kansas**

Walter N. Snow, Supervising Senior Engineer, Marley Cooling Tower Company, Mission, Kansas

**The Cleft-Ridge Span: America's First Concrete Arch**

William P. Chamberlin, Research Engineer, New York State Department of Transportation, Albany, New York

**Rehabilitation of the Cleft-Ridge Span**

Rosemarie Dawes, Architect, Stephen B. Jacobs and Associates, New York, New York

**A Landmark Concrete Structure in Mexico City**

Horacio Ramirez de Alba, Head of Concrete Structures Section, Instituto Mexicano del Cemento y del Concreto, Delegacion Alvaro Obregon, Mexico; Cutberto Diaz-Gomez, Director, Mexicano del Cemento y del Concreto, Delegacion Alvaro Obregon, Mexico

**The Bridges of John B. Leonard—1905 to 1925**

John W. Snyder, Chief Architectural Historian, California Department of Transportation, Sacramento, California

**WEDNESDAY, SEPTEMBER 28, 1983**

2:00 pm-5:00 pm

Ballroom: **Chicago B**

## **INNOVATIVE MATERIALS AND TECHNIQUES IN CEMENT GROUTING (PART I)**

Sponsored by ACI Committee 552

**Session Chairman:** Joseph P. Welsh  
Vice President  
Hayward/Baker Company  
Odenton, Maryland

### **Grouting High Water Inflows in Vat Tunnel**

Peter P. Aberle, Grouting Specialist, U.S. Bureau of Reclamation, Engineering and Research Center, Denver, Colorado; Edward S. Scott, U.S. Bureau of Reclamation, Engineering and Research Center, Denver, Colorado

### **The Use of Condensed Silica Fume in Grouts**

Pierre-Claude Aitcin, Universite' de Sherbrooke, Sherbrooke, Quebec, Canada; Richard Parizeau, Universite' de Sherbrooke, Sherbrooke, Quebec, Canada; Gerald Ballivy, Universite' de Sherbrooke, Sherbrooke, Quebec, Canada

### **The Development of Grout Technology and Grouting Techniques in Brazil**

Francisco R. Andriolo, Engineer, Themag Engenharia Ltda, Sao Paulo, Brazil; Jose Carlos Gam, Engineer, Themag Engenharia Ltda, Sao Paulo, Brazil; Luercio Scanduzzi, Themag Engenharia Ltda, Sao Paulo, Brazil; Bento Carlos Sgarboza, Themag Engenharia Ltda, Sao Paulo, Brazil

### **Design and Prestress Grouting of Concrete-Lined High Pressure Tunnels at Drakensberg**

Lou P. Gonano, Senior Geotechnical Engineer, Golder Associates, Inc., Bellevue, Washington; John C. Sharp, Consultant, Channel Islands, United Kingdom

### **Use of Acoustic Emissions as a Nondestructive Testing Method to Monitor Cement Grouting**

Robert M. Koerner, Professor, Drexel University, Department of Civil Engineering, Philadelphia, Pennsylvania; James D. Leaird, Research Engineer, Acoustic Emission Technology Corporation, Sacramento, California; Joseph P. Welsh, Vice President, Hayward/Baker Company, Odenton, Maryland

### **Drilled Peirs Foundation Rehabilitation Using Cement Grouting**

Charles V. Logie, Partner, Dames and Moore, Golden, Colorado

Please note: Part II will be presented Thursday, September 29,  
2:00 pm-5:00 pm in Chicago B.

**WEDNESDAY, SEPTEMBER 28, 1983**

2:00 pm-5:00 pm

Ballroom: Atlanta

**OPEN PAPER SESSION (PART I)**

Sponsored by Technical Activities Committee

**Session Chairman:** David W. Fowler  
Professor  
University of Texas at Austin  
Architectural Engineering  
Austin, Texas

**Fiber Reinforced Tilt-Up Panels**

Lloyd Hackman, Ribbon Technology Corporation, Canal Winchester, Ohio

**High Strength Bolts as Shear Connectors in Rehabilitation Work**

David J. Dedic, Structural Engineer, Electric Boat Division, General Dynamics, Niantic, Connecticut; F. Wayne Klaiber, Professor of Civil Engineering, Iowa State University, Ames, Iowa

**Confined High Strength Concrete Columns Subjected to Static and Dynamics**

S. P. Shah, Professor of Civil Engineering, Northwestern University, Evanston, Illinois; A. Fafitis, Research Assistant, Northwestern University, Evanston, Illinois

**Case History: Sulphur Concrete Floor Construction at AMAX Nickel Company**

Scott S. Pickard, Vice President, Marketing, Sulcon, Inc., Champaign, Illinois

**Statistical Variations in Concrete Test Results**

Luke M. Snell, Consultant, Associate Professor of Engineering, Southern Illinois University, Edwardsville, Illinois; Norval Wallace, Professor of Engineering, Southern Illinois University, Edwardsville, Illinois; Robert Rutledge, Professor of Engineering, Southern Illinois University, Edwardsville, Illinois

**Limit States of Cracking and Ultimate Strength of Arbitrary Concrete Sections Under Biaxial Loading**

Makoto Kawakami, Associate Professor, Akita University, Akita-shi, Japan; Hiroshi Tokuda, Professor, Akita University, Akita-shi, Japan; Makoto Kagaya, Research Associate, Akita University, Akita-shi, Japan; Masaki Hirata, Graduate Student, Akita University, Akita-shi, Japan

Please note: Part II will be presented Friday, September 30,  
9:00 am-12:00 pm in Atlanta Ballroom

**THURSDAY, SEPTEMBER 29, 1983**

8:30 am-12:30 pm

Ballroom: **Chicago C**

## **PROBABILITY BASED LOAD COMBINATIONS FOR NUCLEAR STRUCTURES**

Sponsored by TAC Ad Hoc Committee and ACI Committee 349

**Session Chairman:** Chester P. Siess  
Professor Emeritus  
University of Illinois  
Civil Engineering Department  
Urbana, Illinois

### **Introduction**

Hans Ashar, Research Manager, U.S. Nuclear Regulatory Commission, Washington, D.C.

### **Opening Remarks**

Chester P. Siess, Professor Emeritus, University of Illinois, Civil Engineering Department, Urbana, Illinois

### **Development of ACI 359**

J. D. Stevenson, Stevenson & Associates, Cleveland, Ohio

### **Development of ACI 349 Code**

Frederick L. Moreadith, Manager of Power Engineering, Gilbert Associates, Inc., Reading, Pennsylvania; Timothy L. Moore, Structural Engineer, Gilbert Associates, Inc., Reading, Pennsylvania

### **Recent ACI Committee 349 Load Combination Considerations**

J. F. Fulton, Supervisor, Concrete Containments, Gilbert/Commonwealth, Reading, Pennsylvania

### **Probability Based Load Combinations—An Overview of NRC Research Programs**

Howard Hwang, Group Leader, Brookhaven National Laboratory, Structural Analysis Division, Upton, New York

### **Reliability Analysis of Concrete Containment Structures**

M. Shinozuka, Renwick Professor, Department of Civil Engineering, Columbia University, New York, New York

### **Reliability Analysis of Shear Wall Structures**

P. C. Wang, Professor, Polytechnic Institute of New York, Brooklyn, New York

### **Proposed Load Combinations for Seismic Category I Structures**

Bruce Ellingwood, Group Leader, National Bureau of Standards, Washington, D.C.

### **Critique and Suggestions**

A.H.S. Ang, Professor of Civil Engineering, University of Illinois, Urbana, Illinois

### **Discussion**

Chester P. Siess, Professor Emeritus, University of Illinois, Civil Engineering Department, Urbana, Illinois

To present up-to-date results of NRC-sponsored research efforts on probability based loads and load combinations, and to present current code backgrounds regarding loads and load combinations. The presentations will be made both by NRC-sponsored researchers and representatives of ACI Committees 349 and 359.

**THURSDAY, SEPTEMBER 29, 1983**

9:00 am-12:00 pm

Ballroom: **New York B****RESEARCH IN PROGRESS**

Sponsored by ACI Committee 123

**Session Chairman:** Charles F. Scholer  
Professor  
Purdue University  
West Lafayette, Indiana

**Silica Fume Concrete for Abrasion-Erosion Resistance**

Terence C. Holland, Research Civil Engineer, Waterways Experiment Station, Vicksburg, Mississippi

**Post-Peak Response of Concrete in Direct Tension**

S. P. Shah, Professor of Civil Engineering, Northwestern University, Evanston, Illinois; V. S. Gopalratnam, Northwestern University, Evanston, Illinois

**Effects of Granulated Blast-Furnace Slag on the Resistance to Chloride Penetration**

Jere H. Rose, Manager, Technical Services, Atlantic Cement Company, Inc., Stamford, Connecticut

**Tests of Columns Subjected to Reversals of Shear and Axial Force**

Daniel P. Abrams, Assistant Professor, University of Colorado, Boulder, Colorado; William Epp, Research Assistant, University of Colorado, Boulder, Colorado

**A Permeability Test of Water Soluble Calcium Chloride in Concrete**

Gary Vondran, Product Manager, Hill Brothers Chemical Company, San Jose, California

**Alkali-Silica Reactivity—Effectiveness of Drying and Cooling in Inhibiting Expansions**

David Stark, Principal Research Petrographer, Portland Cement Association, Skokie, Illinois

**Fire Tests of Reinforced Concrete Columns**

T. D. Lin, Senior Research Engineer, Portland Cement Association, Skokie, Illinois; T. T. Lie, Senior Research Officer, National Research Council of Canada, Ottawa, Ontario, Canada

**New Research in Progress**

G. W. DePuy, Research Engineer, Supervisory Materials, Bureau of Reclamation, Denver, Colorado

**NRMCA Series J-159, Neoprene Pads with Steel Ring and Base Plate for Capping Test Cylinders**

Tarek S. Khan, National Sand & Gravel Association, Silver Spring, Maryland

**Nondestructive Evaluation of Plastic Concrete on the East Huntington Bridge**

Richard A. Muenow, Muenow and Associates Inc., Charlotte, North Carolina; Earl Soyoc, Director of Construction, West Virginia HD, Charleston, West Virginia; Melvin Abrams, Associate, Muenow & Associates, Inc., Wheeling, Illinois

**THURSDAY, SEPTEMBER 29, 1983**

9:00 am-12:00 pm

Ballroom: **New York A**

## **POLYMERS IN CONCRETE (PART I)**

Sponsored by ACI Committee 548

**Session Chairman:** James T. Dikeou  
Quazite Corporation  
Houston, Texas

### **Polymers in Concrete: State of the Art**

David W. Fowler, Professor of Civil Engineering, University of Texas/Austin, Austin, Texas; James T. Dikeou, Quazite Corporation, Houston, Texas

### **Modification of Portland Cement Concrete by Epoxy as Admixture**

Sandor Popovics, Professor, Drexel University, Philadelphia, Pennsylvania

### **Corrosion Resistant Pipe Liners—Polymer Concrete**

Albert Kaeding, Quazite Corporation, Houston, Texas

### **Machine Application of Polymer Concrete for Highway Repairs**

W. J. Simonsen, President, Simonsen Construction Company, Inc., Houston, Texas; Danny Marsh, Estimator, Simonsen Construction Company, Inc., Houston, Texas; David W. Fowler, Professor of Civil Engineering, University of Texas/Austin, Austin, Texas

### **The Effect of Moisture on the Physical and Durability Properties of MMA Polymer Concrete**

Jack J. Fontana, Research Chemist, Brookhaven National Laboratory, Upton, New York; Walter Reams, Research Assistant, Brookhaven National Laboratory, Upton, New York

### **Behavior of Joints Using Reinforced Polymer Concrete**

John R. Craig, Associate Professor, Department of Civil and Environmental Engineering, New Jersey Institute of Technology, Newark, New Jersey; Ishac Kafrouni, New Jersey Institute of Technology, Department of Civil Engineering, Newark, New Jersey; Jean Souaid, New Jersey Institute of Technology, Department of Civil Engineering, Newark, New Jersey; Sitarami Mahadev, New Jersey Institute of Technology, Department of Civil Engineering, Newark, New Jersey; Harold Valentine, New Jersey Institute of Technology, Department of Civil Engineering, Newark, New Jersey

Please Note: Part II will be presented Thursday, September 29, 2:00 pm-5:00 pm in New York A



**THURSDAY, SEPTEMBER 29, 1983**

9:00 am-12:00 pm

Ballroom: **Chicago B****DESIGN AND CONSTRUCTION OF SHRINKAGE  
COMPENSATING CONCRETE**

Sponsored by ACI Committee 223

**Session Chairmen:** Robert J. Gulyas  
Director-National Accounts  
Set Products, Inc.  
Macedonia, Ohio

George C. Hoff  
Mobil Research and Development  
Corporation  
Division Offshore Engineering  
Dallas, Texas

**Specifications for and Properties of Shrinkage-Compensating  
Cement and Concrete**

William F. Perenchio, Senior consultant, Wiss, Janney, Elstner &  
Associates, Northbrook, Illinois

**Structural Design Considerations of Shrinkage Compensating Cement  
in Concrete**

Henry G. Russell, Director, Structural Development Department,  
Portland Cement Association, Skokie, Illinois

**Sanitary Engineering Structures with Shrinkage Compensating  
Concrete: Design and Construction Aspects**

W. Robert Little, Vice-President, Construction, The Landmarks  
Group, Atlanta, Georgia

**Design and Construction Considerations with Post-Tensioned  
Concrete Structures Using ASTM-C-845 Cement**

Ned H. Burns, Professor, Civil Engineering, University of Texas at  
Austin, Austin, Texas

**Design Considerations and Construction Aspects of Grade Slabs  
Using Shrinkage Compensating Cement**

Robert J. Gulyas, Director, National Accounts, Set Products, Inc.,  
Macedonia, Ohio

**Audience Discussion**

George C. Hoff, Mobil Research & Development Corporation, Division  
Offshore Engineering, Dallas, Texas

“Design and Construction of  
Shrinkage Compensating  
Concrete” \$12.00

This material may be purchased  
at the registration desk.

**THURSDAY, SEPTEMBER 29, 1983**

2:00 pm-5:00 pm

Ballroom: **New York A**

## **POLYMERS IN CONCRETE (PART II)**

Sponsored by ACI Committee 548

**Session Chairman:** James T. Dikeou  
Quazite Corporation  
Houston, Texas

**Moderator** Glen W. DePuy  
Bureau of Reclamation  
Denver, Colorado

### **Polymer Impregnation and Polymer Concrete Repairs at Grand Coulee Dam**

W. Glenn Smoak, Bureau of Reclamation, Denver, Colorado

### **Development of Superhigh Strength Concrete Made with Silica Fume Addition and Polymer Impregnation**

Katsunori Demura, Instructor, Nihon University, Fukushima, Japan;  
Yoshihiko Ohama, Professor, Nihon University, Fukushima, Japan;  
Roji Muranishi, Graduate Student, Nihon University, Fukushima, Japan

### **Tensile-Splitting Stress Distribution of Partially Polymer-Impregnated Concrete Cylinders**

Makoto Kawakami, Associate Professor, Akita University, Akita-shi, Japan; Hiroshi Tokuda, Professor, Akita University, Akita-shi, Japan; Kanjiro Ishizaki, Senior Research Chemist, Chichibu Cement Company, Ltd., Kumagaya-shi, Japan; Makoto Kagaya, Research Associate, Akita University, Akita-shi, Japan

### **Commercial Applications and Property Requirements for Epoxies in Construction**

Peter Mendis, Technical Director, Vice-President, Dural International Corporation, Deer Park, New York

### **Epoxy Modified Shotcrete**

Harald Schorn, Professor, Bochum University, Bochum, West Germany

### **Shear Transfer Behavior in Concrete and Polymer Modified Concrete Two Layer Systems**

Edward G. Nawy, Professor/Chairman, Rutgers University, Department Civil/Environmental Engineering, Piscataway, New Jersey

**THURSDAY, SEPTEMBER 29, 1983**

2:00 pm-5:00 pm

Ballroom: **Chicago C**

## **CONTROLLED LOW-STRENGTH MATERIALS**

Sponsored by TAC Ad Hoc Committee

**Session Chairman:** William E. Brewer  
Bowling Green State University  
Bowling Green, Ohio

### **Laboratory Testing Program for Development of Controlled Low-Strength Materials**

Richard M. Majko, Technical Manager, American Fly Ash Company, Des Plaines, Illinois

### **Repair of Outfall Structure, Lambton Thermal Generating Station Sarnia, Ontario, Canada**

Nick P. Bada, Engineer, Ontario Hydro, Port Credit, Ontario, Canada

### **Case History—CLSM Parking Pavement**

Gary Ferguson, Bowser-Morner Testing Laboratory, Inc., Toledo, Ohio

### **Testing and Evaluation of Pozzolanic Base Materials for Highway Construction**

Gary W. Sharpe, Principal Research Engineer, University of Kentucky, Lexington, Kentucky; Larry E. Epley, Assistant Director for Division of Materials, Kentucky Department of Highways, Frankfort, Kentucky, David L. Allen, Chief Research Engineer, Transportation Research Program, University of Kentucky, Lexington, Kentucky; Herbert F. Southgate, Chief Research Engineer, Transportation Research Program, University of Kentucky, Lexington, Kentucky; Robert C. Deen, Director, Transportation Research Program, University of Kentucky, Lexington, Kentucky

### **Case History—Metal Culvert Pipe Construction**

George Murnen, Civil Engineering Department, University of Toledo, Toledo, Ohio

### **Structural Aspects of CLSM**

Donald Milks, Professor and Chairman of Civil Engineering, Ohio Northern University, Ada, Ohio

### **Corrosion Investigation Using CLSM**

Raymond Huber, Bowling Green State University, Bowling Green, Ohio

**THURSDAY, SEPTEMBER 29, 1983**

2:00 pm-5:00 pm

Ballroom: **Chicago B****INNOVATIVE MATERIALS AND TECHNIQUES  
IN CEMENT GROUTING (PART II)**

Sponsored by ACI Committee 552

**Session Chairman:** Joseph P. Welsh  
Vice President  
Hayward/Baker Company  
Odenton, Maryland

**Expansive Properties of Cementitious Grouts**

Della M. Roy, Professor of Materials Science, Pennsylvania State University, University Park, Pennsylvania; M. Perez, Pennsylvania State University, University Park, Pennsylvania; B. E. Sheetz, Pennsylvania State University, University Park, Pennsylvania; P. H. Licastro, Pennsylvania State University, University Park, Pennsylvania

**Low Slump Compactive Tail Shield Grouting and Soft Ground,  
Shield Driven Tunnels**

John G. Ruggiero, Administrative Engineer, New York City Department of Environmental Protection, New York, New York

**Grouting of Contraction Joints Pertaining Agua Vermelha Dam**

Presenter: Paulo Monteiro, Civil Engineer, University of California, Berkeley, California; Authors: Nadia S. Taconelli Paterno, Civil Engineer, Themag Engenharia Ltda, Sao Paulo, Brazil; João Francisco A. da Silveira, Civil Engineer, Promon Engenharia Ltda, Sao Paulo, Brazil; Selmo Chapira Kuperman, Chief, Division of Rand Don Concrete Technology, Themag Engenharia Ltda, Sao Paulo, Brazil; Rui C. de Carvalho, Civil Engineer, Companhia Energetica de Sao Paulo-CESP, Sao Paulo, Brazil

**Influence of Bentonite Content on the Pumpability  
of Compaction Grouts**

Roy H. Borden, Assistant Professor, North Carolina State University, Civil Engineering Department, Raleigh, North Carolina; Daniel M. Groome, Engineer, Soil & Material Engineers, Spartanburg, South Carolina

**Pressure Grouting to Control Ground Water in Fractured Granite Rock,  
Helms Pumped Storage Project**

David W. Moller, Pacific Gas & Electric Company, San Francisco, California; Henry Minch, Berlogar, Long and Associates, Pleasanton, California; Joseph P. Welsh, Vice President, Hayward/Baker Company, Odenton, Maryland; Robert M. Rubright, Hayward/Baker Company, Odenton, Maryland.

**Cold Weather Cement Grouting and Post Tensioning,  
Hauser Lake Dam, Montana**

Peter Yen, Senior Geologist, Bechtel Civil and Minerals, Inc., San Francisco, California

**THURSDAY, SEPTEMBER 29, 1983**

2:00 pm-5:00 pm

Ballroom: **New York B**

## **GEORGE WINTER SYMPOSIUM: CONCRETE MATERIALS AND STRUCTURES**

Sponsored by ACI Technical Activities Committee

**Symposium Chairman:** Gajanan M. Sabnis  
President  
FKC Engineering  
Silver Spring, Maryland and  
Professor of Civil Engineering  
Howard University  
Washington, D.C.

**Co-Chairman:** Bernard L. Meyers  
Project Manager  
Bechtel Power Corporation  
Gaithersburg, Maryland

### **Opening Remarks**

Bernard L. Meyers, Project Manager, Bechtel Power Corporation, Gaithersburg, Maryland

### **Concrete: As Material—Recent Developments**

Floyd O. Slate, Professor, Cornell University, Ithaca, New York

### **Microcracking in Concrete**

Thomas T. C. Hsu, Chairman, Department of Civil Engineering, University of Houston, Houston, Texas

### **Inelastic Behavior of Concrete**

Arthur H. Nilson, Professor of Structural Engineering, Cornell University, Ithaca, New York

### **Behavior of Concrete Under Repeated Loads**

S. P. Shah, Professor of Civil Engineering, Northwestern University, Evanston, Illinois

### **Concrete: Codes and Standards**

Edward Cohen, Managing Partner, Ammann & Whitney, New York, New York

### **Structural Safety of Reinforced Concrete**

Robert G. Sexsmith, Principal, Buckland and Taylor, Ltd., North Vancouver, British Columbia, Canada

### **Evolution of Instruction in Concrete Structures**

Richard N. White, Professor, Cornell University, Ithaca, New York

### **Models of Concrete Structures**

M. Saeed Mirza, Professor, McGill University, Montreal, Quebec, Canada; Gajanan M. Sabnis, President, FKC Engineering, Silver Spring, Maryland, and Professor of Civil Engineering, Howard University, Washington, D.C.

### **Investigation of Distress in Concrete Structures**

Boris Bresler, Principal, Wiss, Janney, Elstner Associates, Inc., Emeryville, California

THURSDAY, SEPTEMBER 29, 1983

7:30 pm-10:00 pm

Ballroom: **Chicago**

## **FORUM: INSPECTION OF CONCRETE— HOW GOOD IS IT?**

Sponsored by ACI Committee 123 and Committee 311

**Session Chairman:** Robert L. Henry  
Consultant and Branch Manager  
Wiss, Janney, Elstner Associates, Inc.  
Dallas, Texas

**Panelists:** Art Sukenik  
Manager  
Western Zone Design & Construction Division  
Equitable Life Assurance Society of U. S.  
Dallas, Texas

Terry Dunn  
Executive Vice-President  
J. E. Dunn Construction Company  
Kansas City, Missouri

Joe Artuso  
President  
Construction Engineering Consultants, Inc.  
Loughlintown, Pennsylvania

The object of this forum is to bring together owners, engineers, architects, contractors, and laboratory personnel to consider the current practices with regard to inspection of concrete

Is there too much? Is it any good? Are we doing it correctly? Who should be paying for inspection, the owner or the contractor? Can the contractor inspect his own work and materials? Should the engineering consultant provide inspection? Should there be more inspection? Are specifications clearly defining what inspection and tests should be performed? Come and participate in the discussion with these panelists and share in their knowledge.

**FRIDAY, SEPTEMBER 30, 1983**

9:00 am-12:00 pm

Ballroom: **Chicago B**

## **CONCRETE RAILROAD TIES**

Sponsored by ACI Committee 545 and Committee 10 (AREA)

**Session Chairman:** William J. Venuti  
Professor  
Department of Civil Engineering  
San Jose State University  
San Jose, California

### **Prestressed Concrete Railroad Ties—The PCI Slide Lecture**

John G. White, President, Genstar Costain Tie Company, Ltd.,  
Calgary, Alberta, Canada

### **Concrete Ties for Transit Systems**

Amir N. Hanna, Principal Engineer, Track Structures, Construction  
Technology Laboratories, Skokie, Illinois

### **Prestressed Concrete Ties on Indian Railways**

Presenter: William J. Venuti, Professor, Department of Civil Engineer-  
ing, San Jose State University, San Jose, California. Authors: A.G.  
Madhava Rao, Assistant Director, Structural Engineering Research  
Centre, Madras, India; V.S. Parameswaran, Assistant Director,  
Structural Engineering Research Centre, Madras, India; D.S.  
Ramachandra Murthy, Scientist, Structural Engineering Research  
Centre, Madras, India

### **Design and Production of Prestressed Concrete Ties for Amtrak's Northeast Corridor Improvement Program**

Philip J. McQueen, Consulting Engineer, Ignacio, California

### **Installation of Concrete Ties on Amtrak's Northeast Corridor**

R.D. Johnson, Regional Engineer-East/Project Manager, Northeast  
Corridor Improvement Project, Amtrak, Philadelphia, Pennsylvania

### **Quality Control in the Manufacture of Prestressed Concrete Rail Ties**

Derek Firth, Regional General Manager, Genstar Costain Tie Com-  
pany, Ltd., Edmonton, Alberta, Canada

FRIDAY, SEPTEMBER 30, 1983

9:00 am-12:00 pm

Room: Empire B & C

## CONCRETE SANITARY ENGINEERING STRUCTURES-PROBLEMS AND SOLUTIONS

Sponsored by ACI Committee 350

**Session Chairman:** Jon B. Ardahl  
Black & Veatch  
Kansas City, Missouri

### Introduction

Jon B. Ardahl, Black & Veatch, Kansas City, Missouri

### Types of Problems

Dov Kaminetzky, President, Feld, Kaminetzky & Cohen, New York,  
New York

### Collapse of Filter Influent Channel and Structural Deficiencies of Lime Reaction Tanks

Leonidas T. Delyannis, L.T. Delyannis and Associates, Arlington,  
Virginia

### Failure of Tunnel Culvert and Deficiencies in Oxygenation Tanks

Predrag L. Popovic, Consultant, Wiss, Janney, Elstner and  
Associates, Inc., Northbrook, Illinois

### Experiences with Two Reinforced Concrete Aeration Basins

A. H. Karabinis, Principal Engineering Specialist, Monsanto Com-  
pany, St. Louis, Missouri; T.J. Fowler, Distinguished Fellow, Mon-  
santo Company, St. Louis, Missouri

### Experiences with Shrinkage Compensating Concrete in Sanitary Engineering Structures

Edward K. Rice, CTS Cement Manufacturing Company, Sherman  
Oaks, California

### Cracking of Concrete Lining in Soft Ground Tunnels

Glenn Noble, Consulting Engineer and Construction Consultant,  
Pontiac, Michigan



**FRIDAY, SEPTEMBER 30, 1983**

9:00 am-12:00 pm

Ballroom: **Chicago C**

## **CONSOLIDATION OF CONCRETE**

Sponsored by ACI Committee 309

**Session Chairman:** Donald L. Schlegel  
Manager, Research and Development  
Price Brothers Company  
Dayton, Ohio

**Video Tape Presentation: Consolidation of Concrete by Vibration**  
Roger E. Wilson, Manager, Construction and Technology Education,  
Portland Cement Association, Skokie, Illinois

**Practical Approaches to Concrete Consolidation**  
James M. Shilstone, President, Shilstone and Associates, Inc.,  
Dallas, Texas

**Types of Concrete Consolidation Equipment**  
Ken Weden, Chief Engineer, Wyco Tool Company, Chicago, Illinois

**Field Studies on Consolidation of Concrete Pavement**  
Thomas J. Reading, Consulting Engineer, Omaha, Nebraska

**Vibration Effects and Techniques in Relation to Various Plastic Form Surfaces**  
Jerome Ford, Sales Manager, Symons Corporation, Des Plaines,  
Illinois

**A Device for Recording the Consolidation Process of Fresh Concrete During Vibration**  
Robert E. Lombardi, Manager, Lombardi Company, Inc.,  
Philadelphia, Pennsylvania; Sandor Popovics, Professor, Drexel  
University, Philadelphia, Pennsylvania

**How Concrete Can Be Consolidated Around Congested Reinforcement**  
Hrista Stamenkovic, Building Engineer, City of Riverside, Riverside,  
California

**FRIDAY, SEPTEMBER 30, 1983**

9:00 am-12:00 pm

Ballroom: **Atlanta**

## **OPEN PAPER SESSION (PART II)**

Sponsored by ACI Technical Activities Committee

**Session Chairman:** I. Leon Glassgold  
Masonry Resurfacing Construction  
Company, Inc.  
Baltimore, Maryland

### **Torsional Analysis of Multi-Storied Structures— A Simplified Approach**

David G. Kittridge, Senior Engineer, Boyle Engineering Corporation,  
Orlando, Florida

### **Suggestions for Cost Effectiveness**

#### **on Concrete Bridge Piers and Abutments**

Marius B. Wechsler, Senior Engineer, Bechtel Power Corporation,  
Norwalk, California

### **Repair and Maintenance of Concrete Structures**

#### **Subject to Water Erosion**

Presenter: Paulo Monteiro, Civil Engineer, University of California,  
Berkeley, California; Authors: Vladimir A. Paulon, Head of Concrete  
Technology Department, Promon Engenharia Ltda, Sao Paulo, Brazil;  
Miguel N. R. Saad, Head of Concrete Laboratory at Ilha Solteira Dam,  
CESP-CIA, Energetica De Sao Paulo, Sao Paulo, Brazil; Walton Pacelli  
De Andrade, Head of Concrete Laboratory at Itumbiara Dam, Furnas  
Centrais Eletricas S.A., Itumbiara, Brazil

### **Concrete Cable-Stayed Bridges**

Man-Chung Tang, President, DRC Consultants, Inc. New York,  
New York

### **Design and Full Scale Testing of Elastomeric Bridge Bearings For Trestle and Jetty Trestle of Super Tanker Offshore Terminal**

Syed I. Husain, Engineering Manager, III, Marine Engineering Divi-  
sion, Brown & Root, Inc., Houston, Texas

### **Durability of Glass Fiber Reinforced Concrete**

James I. Daniel, Structural Engineer, Structural Experimental Sec-  
tion, Portland Cement Association, Skokie, Illinois; Donald M.  
Schultz, Manager, Structural Experimental Section, Portland Cement  
Association, Skokie, Illinois

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# ACI FUTURE CONVENTIONS

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## 1984 Annual Convention

March 4-9

Hyatt Regency Hotel

Phoenix, Arizona

## 1984 Fall Convention

October 28-November 2

Grand Hyatt Hotel

New York, New York

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## ACI ACCESSORIES

At the ACI convention registration desk  
you may place an order or purchase  
the following accessories:

<b>ACI Fellow Pin/Tie Tac</b>	\$8.35
Our ACI emblem and Fellow designation in 10k gold	
<b>ACI Member Pin</b>	\$8.35
Rhodium, enameled in ACI blue	
<b>Necktie</b>	\$6.00
Dark blue, embroidered with ACI logo	
<b>Golf Hat</b>	\$5.95
Dark blue with ACI logo	
<b>Money Clip</b>	\$4.50
Antique silver tone, in gift box	
<b>ACI Key Tags</b>	\$3.95
Two styles — available in all-chain or ring mesh, both have pewter finish	



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# Spouse Program

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## SUNDAY, September 25, 1983

- 6:30 pm- 8:00 pm **Wine & Cheese Party**  
Sponsored by Kansas/Missouri  
ACI Chapters

## MONDAY, September 26, 1983

- 8:30 am-10:00 am **Coffee & Rolls** (Hospitality Room)  
9:00 am- 3:00 pm **Hospitality Room** - Hostess available to  
answer questions  
10:00 am-11:00 am **Orientation Program**  
"What to do and see in Kansas City"  
3:00 pm- 5:00 pm **Spouse Wine & Cheese Open House:**  
Hosted by  
ACI President & Mrs. Norman L. Scott

## TUESDAY, September 27, 1983

- 9:00 am-10:30 am **Spouse Breakfast** - Sponsored by ACI  
(complimentary)  
9:00 am- 3:00 pm **Hospitality Room** - Hostess available to  
answer questions  
1:00 pm- 4:00 pm **City Tour with Miniature Museum**  
(cost \$13.00)  
Join us for an interesting and historic tour  
of the city and Miniature Museum. A good  
opportunity for you to become acquainted  
with Kansas City, the "City of Fountains,"  
and meet friends along the way.  
2:00 pm- 3:30 pm **Hallmark Cards Headquarters Tour** (Free)  
Listen to the story and tour the Hallmark  
Cards Headquarters. Watch greeting cards  
being created from conception to the final  
product.  
(This tour will be offered on a periodic  
basis.)

## WEDNESDAY, September 28, 1983

- 8:30 am-10:00 am **Coffee & Rolls** (Hospitality Room)  
9:00 am- 3:00 pm **Hospitality Room** - Hostess available to  
answer questions  
9:00 am-12:00 pm **General Session** (all are invited)  
Raymond E. Davis Lecture  
Presented by Gunnar M. Idorn  
10:00 am- 1:00 pm **Nelson Art Gallery** (cost \$12.75)  
You will delight in touring Kansas City's  
world-renowned Nelson Gallery of Art. The  
Nelson Gallery is the largest museum from  
Chicago to Tokyo; it is ranked among the  
nation's top ten fine arts institutions; and  
one of the top three in Oriental collections.  
The Gallery's extensive collection includes  
the works of El Greco, Rembrandt, Hals,  
Tintoretto, Pissarro, Seurat, Cezanne,  
Van Gogh, Utrillo, Picasso, Goya, Bellini,  
Carvaggio, Titian, Rubens, Bingham,  
Benton, etc.  
6:30 pm- 8:00 pm **Concrete Mixer** (all invited)

**THURSDAY, September 29, 1983**

**8:30 am-10:00 am** Coffee & Rolls (Hospitality Room)

**9:00 am- 3:00 pm** Hospitality Room - Hostess available to answer questions

**9:00 am- 2:00 pm** Truman Museum/Library and Luncheon (cost \$21.50)

The Harry S. Truman Library is a combination research center and museum housing the unique working papers accumulated by President Truman during his public career spanning the 50-year period from 1922-1972. Among the museum's outstanding exhibits are hundreds of beautiful and priceless gifts from foreign heads of state and U.S. citizens. President Truman and his wife Bess are buried in the Library's courtyard and you will be able to visit the gravesite.

Luncheon will be served at Stephenson's Apple Farm Restaurant where you will enjoy sipping cider drawn from a wooden barrel; browsing through the many primitive antique-filled rooms; and shopping at the oldtime country store. Stephenson's has a national reputation for the fine food and early-day atmosphere.

**6:30 pm**

**Kansas / Missouri ACI Chapters' Dinner Meeting**

(all are welcome to attend)

Please purchase tickets at the ACI registration desk in Kansas City.

**FRIDAY, September 30, 1983**

**8:30 am-10:00 am** Coffee & Rolls and time to say "Good-Bye" to our friends.

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## **PLATINUM SPONSOR**

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GIFFORD-HILL CHEMICAL

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MARLEY COOLING TOWER COMPANY  
ASH GROVE CEMENT COMPANY  
BURNS AND McDONNELL

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Continental Cement Company  
The Monarch Cement Company  
American Admixtures & Chemical Corporation  
Van Deurzen and Associates  
Master Builders  
Ceco Corporation  
Breckenridge Material Company  
Dudley Williams and Associates  
Pool & Patio Center Inc.  
Martin Marietta  
Douglas Construction Company, Inc.  
Martin K. Eby Construction Company, Inc.  
L. Keeley Paving and Construction Company  
Howard Needles Tammen & Bergendoff  
Lutz, Daily & Brain

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## BRONZE SPONSOR

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Shafer, Kline and Warren Major, Inc.	The Aylward Products Company Concrete Placement, Inc.
BRB Contractors, Inc.	V.S. DiCarlo General Contractors, Inc.
H and O Construction Company	Fruco Engineers, Inc.
Harrington and Cortelyou	Vee-Jay Cement Contracting Company, Inc.
Smoky Hill, Inc.	Bob D. Campbell & Company, Inc.
H & H Foundation Drilling	Penny's Ready-Mixed Concrete Company, Inc.
George Butler	Cook, Flatt, and Strobel, Engineers, Inc.
Barton Engineering	Allens Concrete Utility Contractors, Inc.
A.C. Kirkwood	Dolese Brothers Company
H.W. Reece	Columbia Machine, Inc.
Omega Concrete Systems	Midwest Fly Ash & Materials Inc.
Larry Snyder & Company, Inc.	Terracon Consultants
Prestressed Concrete, Inc.	Lonestar Industries, Inc.
Holliday Sand and Gravel	Walter N. Handy Company
Davenport Cement Company	Dayton Superior
Boyd, Brown, Stude & Cambern	Associated Engineers, Inc.
General Testing Laboratories, Inc.	Target Products Division
Marshall and Brown, Inc.	Federal Mogul Corporation
Harper and Kerr	Wilson Concrete Company
LRM, Inc.	Bucher, Willis, Ratcliff
Protex Industries, Inc.	
Julius Kaaz Construction Company, Inc.	
Botsford Ready Mix Company	
Buildex, Inc.	

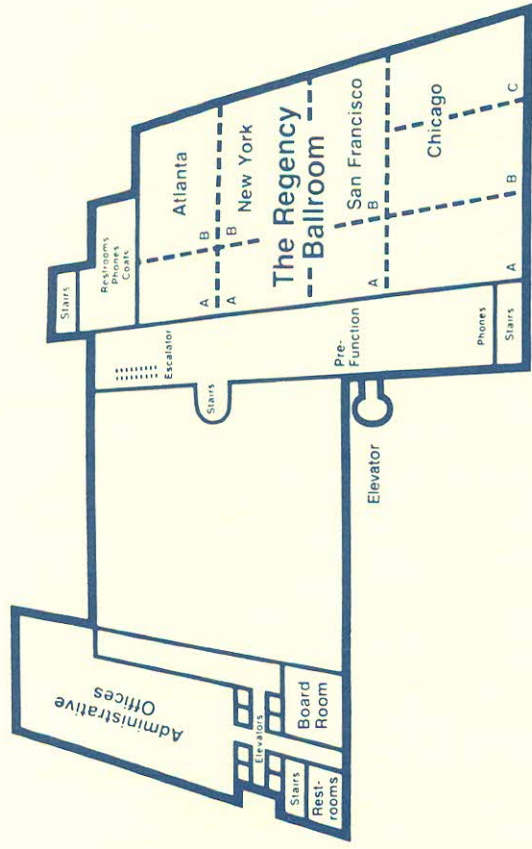
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## SPONSOR

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Reno Construction Company	Bonjour
Kershaw Ready Mix Concrete & Sand Company	Shamrock Concrete Company
E.T. Archer and Company	Erico Products

# HOTEL FLOOR PLANS

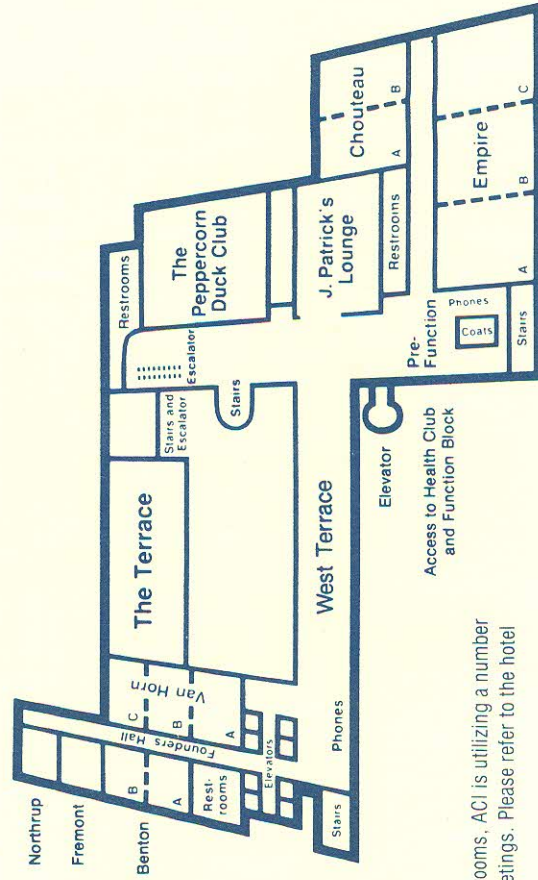


## THIRD LEVEL

- Atlanta Ballroom
- Board Room
- Chicago Ballroom
- New York Ballroom
- San Francisco Ballroom



# HOTEL FLOOR PLANS



## SECOND LEVEL

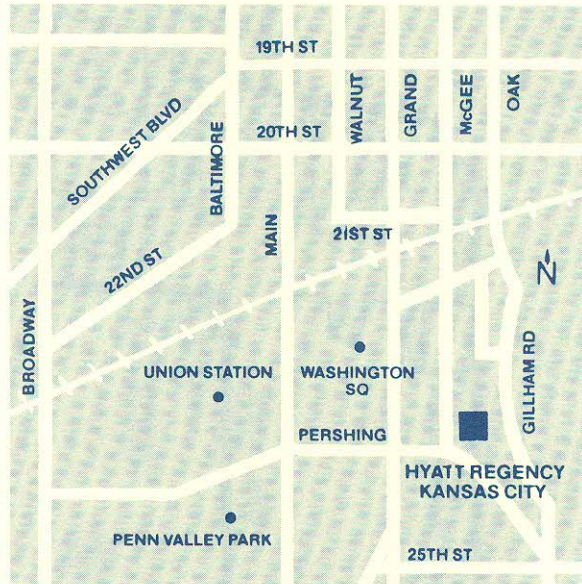
Benton A & B  
 Chouteau A & B  
 Empire A, B & C  
 Fremont Room  
 Northrup Room  
 Van Horn A, B & C

**Note:** In addition to these conference rooms, ACI is utilizing a number of suites in the hotel for committee meetings. Please refer to the hotel TV monitors for room numbers.

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# KANSAS CITY CONVENTION AREA MAP

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# NOTES

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