

**AMERICAN
CONCRETE
INSTITUTE**

**1978
FALL
CONVENTION**



**HYATT REGENCY
HOUSTON, TEXAS**

October 29 - November 3, 1978

PROGRAM FALL CONVENTION

October 29 — November 3, 1978
Houston, Texas

Registration fees cover attendance at all ACI technical and educational committee meetings, general session, and symposia. They do **not** cover the Formwork Safety Forum on Tuesday nor the Concrete Mixer on Wednesday for which there are separate charges.

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SUSTAINING MEMBERS OF THE AMERICAN CONCRETE INSTITUTE

Master Builders
Division of Martin Marietta Corporation
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Southwestern Portland Cement Company
Los Angeles, California

Portland Cement Association
Skokie, Illinois

Sika Chemical Corporation
Lyndhurst, New Jersey

Marquette Company
Nashville, Tennessee

W. R. Grace & Company
Cambridge, Massachusetts

SCHEDULE

SUNDAY, OCTOBER 29

8:30 a.m. - 6:00 p.m.

Administrative committee meetings

MONDAY, OCTOBER 30

8:30 a.m. - 10:00 p.m.

Administrative, technical, and educational committee meetings

TUESDAY, OCTOBER 31

8:30 a.m. - 10:00 p.m.

Administrative, technical, and educational committee meetings

1:00 p.m. - 5:00 p.m.

Formwork Safety Forum (Registration fee: \$25.00 ACI Members; \$30.00 NonMembers)

2:00 p.m. - 5:00 p.m.

Student Activities Seminar (ACI Committee E-801)

WEDNESDAY, NOVEMBER 1

9:00 a.m. - 10:30 a.m.

General Session

10:30 a.m. - 12:00 noon

Standards Presentation

1:30 p.m. - 6:00 p.m.

Administrative and technical committee meetings

2:00 p.m. - 5:00 p.m.

Research on Plain and Reinforced Concrete (ACI Committee 115)

2:00 p.m. - 5:00 p.m.

Energy and Resource Conservation

6:15 p.m. - 8:15 p.m.

Concrete Mixer

THURSDAY, NOVEMBER 2

8:30 a.m. - 5:30 p.m.

International Symposium on Foundations for Equipment and Machinery (ACI Committee 351)

8:30 a.m. - 5:30 p.m.

Adrian Pauw Symposium on Designing for Creep and Shrinkage (ACI Committee 209)

8:30 a.m. - 10:00 p.m.

Administrative, technical, and educational committee meetings

9:00 a.m. - 12:00 noon

Design, Construction and Maintenance Problems Relating to Parking Garages

2:00 p.m. - 5:30 p.m.

Symposium: Nonlinear Behavior of Reinforced and Prestressed Concrete Structures (ACI Committee 428) (1st session)

7:00 p.m. - 10:00 p.m.

Forum: Concrete Constructability - The ACI Code Versus Field Implementation (ACI Committee 114)

FRIDAY, NOVEMBER 3

8:30 a.m. - 12:00 noon

Symposium: Nonlinear Behavior of Reinforced and Prestressed Concrete Structures (ACI Committee 428) (2nd session)

8:30 a.m. - 12:30 p.m.

Symposium: In-Situ Strength Evaluation of Concrete (ACI Committee 214)

9:00 a.m. - 12:00 noon

Symposium: Mathematical Modeling of Reinforced Concrete Structures (ACI Committee 442)



ACI FUTURE CONVENTIONS

1979 Annual Convention

March 18-23

Marc Plaza Hotel

Milwaukee, Wisconsin

1979 Fall Convention

October 28-November 2

The Capital Hilton Hotel

Washington, D.C.

1980 Annual Convention

March 2-7

with World of Concrete

Aladdin Hotel

Las Vegas, Nevada

1980 Fall Convention

September 21-26

Condada/La Concha

San Juan, Puerto Rico

SPECIAL EVENTS

Publications Display . . . on the third (Ballroom) level all week. See the latest ACI publications now available. Orders are taken at the Registration Desk which is also on the third level.

Film Presentation . . . Tuesday, 11:00 a.m. in the Arboretum East. Mr. Claes Bjork of the Stabilator Company of Skanska U.S.A., Inc. will present a short talk and a film entitled "Stabilator Training Program for Shotcrete Crews." This presentation will be incorporated in the meeting of Committee 506, Shotcreting, and visitors are invited to attend.

Education at the Convention . . . Two half-day programs are being presented, one of which requires a separate registration fee. Since enrollment is limited, early registration is advised.

Student Activities Seminar . . . Tuesday, 2:00 p.m. - 5:00 p.m. in the Imperial West. Arranged specifically for the engineering student, this seminar will cover community projects and competitions plus a briefing on ACI's technical activities.

Formwork Safety Forum . . . Tuesday, 1:00 p.m. - 5:00 p.m., in the Imperial East. This forum covers all aspects of formwork safety and all those who are concerned with this area of concrete construction are urged to attend.

Graphics Demonstration . . . Wednesday, 2:00 p.m., in the Cottonwood B room. A 30-minute presentation on the capabilities of computer-aided interactive drafting will be given by representatives of the Auto-Trol Corporation. The presentation will be given at the start of the meeting of Committee 118, Use of Computers. Visitors are invited.

In addition to the above presentation, state-of-the-art demonstrations of computer-aided interactive drafting will be given at the offices of Caudill, Rowlett, Scott, Inc. These demonstrations will be made to groups of 5 or 6 people and will last about 30 minutes. Transportation will be provided. The first group will leave the hotel at 1:00 p.m. on Thursday and additional groups will leave at intervals throughout the afternoon, as needed.

"Concrete Mixer" . . . Wednesday, 6:15 p.m. - 8:15 p.m. This traditional event will be held at La Hacienda de los Morales which is a facility of international repute for its continental cuisine. Buses will leave the hotel at 6:15 p.m. The last bus will leave the Hacienda at 8:15 p.m. Tickets are \$2 and you are requested to wear your badge.

PLEASE NOTE: Should you want to stay at the Hacienda for dinner, you **must** make a reservation and you are advised to make it **early**.

Special Tours . . . have been planned by the Local Convention Committee. Be sure to check the spouses' program in the back of this booklet for tours of interest to you. There will be at least one and probably several. Don't miss them!

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The officers, staff, and members of ACI would like to thank the Local Committee, the Hostesses, and the Houston Chapter for their part in the 1978 Fall Convention!

CONTRIBUTORS TO THE HOUSTON CHAPTER PROGRAM (as of September 21, 1978)

K. R. Abel & Son, Inc.
Aggregate Plant Products Company
Associated Testing Laboratories, Inc.
The Austin Company
Howard Barnstone, Architects, Inc.
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Goodale-LeMay, Inc.

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COMMITTEE MEETINGS

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

COMMITTEE	Meeting Room
SUNDAY	
OCTOBER 29	
— Technical Activities Committee Subgroup	Cottonwood A
— Technical Activities Committee Subgroup	Cottonwood B
— Technical Activities Committee Subgroup	Mesquite
8:30 a.m. - 12:30 p.m.	
— Technical Activities Committee	Cottonwood A
2:00 p.m. - 6:00 p.m.	
— Technical Activities Committee	Cottonwood A
MONDAY	
OCTOBER 30	
— Technical Activities Committee	Cottonwood A
— Educational Activities Committee	Dogwood A
211 Subcommittee 1, Proportioning Lightweight Concrete	Arboretum West I
211 Subcommittee 7, Proportioning Mass Concrete	Arboretum West II
223 Expansive Cement Concretes	Magnolia
308 Curing Concrete	Mesquite
318 Subcommittee 3, Details-Development and Splices of Reinforcement	Mimosa
318 Subcommittee 9, Precast-Prestressed and Composite Concrete	Holly
318 Subcommittee 12, Performance Code	Cedar
318 Task Group on Code Simplification	Live Oak
336 Combined Footings and Piers	Redbud
347 Formwork for Concrete	Dogwood B
435 Deflection of Concrete Building Structures	Cottonwood B
531 Masonry Structures	Arboretum East
532 Concrete Masonry	Willow
10:30 a.m. - 12:30 p.m.	
— Technical Activities Committee	Cottonwood A
— Educational Activities Committee	Dogwood A
211 Proportioning Concrete Mixes	Arboretum Center
302 Construction of Concrete Floors	Arboretum West I
305 Hot Weather Concreting	Arboretum West II
318 Subcommittee 3, Details-Development and Splices of Reinforcement	Mimosa
318 Subcommittee 9, Precast-Prestressed and Composite Concrete	Holly
318 Subcommittee 12, Performance Code	Cedar
336 Combined Footing and Piers	Redbud
347 Formwork for Concrete	Dogwood B
358 Concrete Guideways	Live Oak
435 Deflection of Concrete Building Structures	Cottonwood B
531 Masonry Structures	Arboretum East
532 Concrete Masonry	Willow
E-701 Materials for Concrete	Magnolia
2:00 p.m. - 4:00 p.m.	
— Educational Activities Committee	Dogwood A
— Planning Committee	Cedar

117 Tolerances	Arboretum West II
224 Cracking	Dogwood B
302 Construction of Concrete Floors	Arboretum West I
304 Measuring, Mixing, Transporting, and Placing Concrete	Magnolia
305 Hot Weather Concreting	Cottonwood B
315 Details of Concrete Reinforcement	Cottonwood A
318 Subcommittee 6, Flexure and Axial Loads	Mimosa
318 Subcommittee 7, Shear and Torsion	Holly
437 Strength Evaluation of Existing Concrete Structures	Redbud
442 Response of Buildings to Lateral Forces	Mesquite
445 Shear and Torsion	Imperial West
506 Shotcreting	Arboretum East
531 Masonry Structures	Imperial East
533 Precast Panels	Live Oak
548 Polymers in Concrete	Arboretum Center
4:00 p.m. - 6:00 p.m.	
— Educational Activities Committee	Dogwood A
— Planning Committee	Cedar
— Board Committee on Metrication	Cottonwood B
104 Notations	Willow
117 Tolerances	Arboretum West II
201 Durability of Concrete	Arboretum West I
224 Cracking	Dogwood B
301 Specifications for Structural Concrete	Magnolia
315 Details of Concrete Reinforcement	Cottonwood A
318 Subcommittee 6, Flexure and Axial Loads	Mimosa
318 Subcommittee 7, Shear and Torsion	Holly
442 Response of Buildings to Lateral Forces	Mesquite
443 Concrete Bridge Design	Redbud
445 Shear and Torsion	Imperial West
506 Shotcreting	Arboretum East
531 Masonry Structures	Imperial East
533 Precast Panels	Live Oak
548 Polymers in Concrete	Arboretum Center
7:30 p.m. - 9:30 p.m.	
— Board Committee on Metrication	Cottonwood B
— Institute and Industry Advancement Committee	Cottonwood A
301 Specifications for Structural Concrete	Magnolia
318 Task Group on Liaison with Other Materials Groups	Holly
318 Task Group on Plain Concrete	Dogwood A
443 Concrete Bridge Design	Redbud
TUESDAY	
OCTOBER 31	
8:30 a.m. - 10:30 a.m.	
— Standards Board	Holly
— Specifications Review Committee	Ponderosa
— Chapter Activities Committee	Dogwood A
121 Quality Assurance Systems for Concrete	Imperial West
212 Admixtures	Cottonwood A
215 Fatigue of Concrete	Mesquite
318 Subcommittee 5, Serviceability Requirements	Mimosa
318 Subcommittee 8, Two-Way Slabs	Cedar

340	Strength Design Handbook	Cottonwood B
344	Circular Prestressed Concrete Structures	Live Oak
349	Working Group on Design	Pecan
350	Sanitary Engineering Structures	Magnolia
360	Design of Slabs on Grade	Arboretum West I
423	Prestressed Concrete	Arboretum West II
441	Reinforced Concrete Columns	Arboretum Center
503	Adhesives for Concrete	Ebony
506	Shotcreting	Arboretum East
E-601	Seminars and Workshops	Raintree
E-702	Designing Concrete Structures	Dogwood B

10:30 a.m. - 12:30 p.m.

—	Chapter Activities Committee	Dogwood A
—	Ad hoc Committee on Energy Conservation	Ponderosa
121	Quality Assurance Systems for Concrete	Imperial West
212	Admixtures	Cottonwood A
215	Fatigue of Concrete	Mesquite
225	Hydraulic Cements	Dogwood B
318	Subcommittee 5, Serviceability Requirements	Mimosa
318	Subcommittee 8, Two-Way Slabs	Cedar
340	Strength Design Handbook	Cottonwood B
344	Circular Prestressed Concrete Structures	Live Oak
349	Working Group on Design	Pecan
350	Sanitary Engineering Structures	Magnolia
355	Anchorage to Concrete	Holly
360	Design of Slabs on Grade	Arboretum West I
423	Prestressed Concrete	Arboretum West II
441	Reinforced Concrete Columns	Arboretum Center
503	Adhesives for Concrete	Ebony
504	Joint Sealants	Redbud
506	Shotcreting	Arboretum East
E-601	Seminars and Workshops	Raintree

1:00 p.m. - 5:00 p.m.

FORMWORK SAFETY FORUM (sponsored by ACI

Committees E-703 and 347)

2:00 p.m. - 4:00 p.m.

209	Creep and Shrinkage in Concrete	Cottonwood A
213	Lightweight Aggregates and Lightweight Aggregate Concrete	Magnolia
309	Consolidation of Concrete	Cottonwood B
318	Subcommittee 2, Concrete Quality-Construction Requirements	Mimosa
318	Subcommittee 4, Analysis-Strength Requirements	Cedar
332	Residential Concrete Work	Mesquite
344	Circular Prestressed Concrete Structures	Live Oak
345	Concrete Bridge Construction and Maintenance	Redbud
348	Structural Safety	Dogwood A
349	Working Group on Embedments	Ebony
349	Working Group on Impact and Impulse	Raintree
349	Working Group on Design	Pecan
349	Working Group on Materials	Willow
351	Subcommittee 3, Foundations for Equipment and Machinery - Static Equipment	Ponderosa
352	Joints and Connections in Monolithic Concrete Structures	Arboretum West I

439	Steel Reinforcement	Arboretum West II
444	Models of Concrete Structures	Dogwood B
506	Shotcreting	Arboretum East
544	Fiber Reinforced Concrete	Arboretum Center

2:00 p.m. - 5:00 p.m.

STUDENT ACTIVITIES SEMINAR (sponsored by

Committee E-801)

4:00 p.m. - 6:00 p.m.

—	International Activities Committee	Magnolia
309	Consolidation of Concrete	Cottonwood B
318	Subcommittee 2, Concrete Quality-Construction Requirements	Mimosa
318	Subcommittee 4, Analysis-Strength Requirements	Cedar
332	Residential Concrete Work	Mesquite
344	Circular Prestressed Concrete Structures	Live Oak
345	Concrete Bridge Construction and Maintenance	Redbud
348	Structural Safety	Dogwood A
349	Working Group on Design	Pecan
349	Working Group on Embedments	Ebony
349	Working Group on Impact and Impulse	Raintree
349	Working Group on Materials	Willow
351	Subcommittee 3, Foundations for Equipment and Machinery - Static Equipment	Ponderosa
351	Subcommittee 4, Foundations for Equipment and Machinery—Grout	Cottonwood A
352	Joints and Connections in Monolithic Concrete Structures	Arboretum West I
439	Steel Reinforcement	Arboretum West II
444	Models of Concrete Structures	Dogwood B
506	Shotcreting	Arboretum East
516	High Pressure Steam Curing	Holly
544	Fiber Reinforced Concrete	Arboretum Center
		7:30 p.m. - 9:30 p.m.
115	Current Research	Cottonwood B
120	History of Concrete	Arboretum West I
311	Inspection of Concrete	Cottonwood A
318	Subcommittee 1, General - Code Organization	Mimosa
318	Subcommittee 10, Special Provisions for Seismic Design	Live Oak
318	Task Group on Metrication	Cedar
544	Fiber Reinforced Concrete	Arboretum Center

WEDNESDAY

NOVEMBER 1

9:00 a.m. - 10:30 a.m.

GENERAL SESSION

Imperial Center

10:30 a.m. - 12:00 noon

STANDARDS PRESENTATION

Imperial East

1:30 p.m. - 5:30 p.m.

—	Convention Committee	Arboretum West II
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2:00 p.m. - 4:00 p.m.

—	Ad Hoc Committee on Publications Policy	Cedar
114	Research and Development	Willow
118	Use of Computers	Cottonwood B
209	Creep and Shrinkage in Concrete	Holly

210	Erosion of Concrete in Hydraulic Structures	Ponderosa
216	Fire Resistance and Fire Protection	Redbud
222	Corrosion of Metals in Concrete	Mimosa
301	Specifications for Structural Concrete	Dogwood B
303	Architectural Concrete	Imperial West
311	Inspection of Concrete	Cottonwood A
318	Standard Building Code	Arboretum Center
349	Concrete Nuclear Structures	Arboretum East
351	Foundations for Equipment and Machinery	Magnolia
408	Bond and Development of Reinforcement	Dogwood A
517	Accelerated Curing of Concrete at Atmospheric Pressure	Live Oak
547	Refractory Concrete	Mesquite
—	ACI-ASCE Masonry Committee	Arboretum West I

2:00 p.m. - 5:00 p.m.

ENERGY AND RESOURCE CONSERVATION

(sponsored by ad hoc committee) Imperial Center

RESEARCH ON PLAIN AND REINFORCED CONCRETE

(sponsored by Committee 115) Imperial East

4:00 p.m. - 6:00 p.m.

—	Ad Hoc Committee on Publications Policy	Cedar
114	Research and Development	Live Oak
118	Use of Computers	Cottonwood B
210	Erosion of Concrete in Hydraulic Structures	Ponderosa
216	Fire Resistance and Fire Protection	Redbud
221	Aggregates	Mimosa
301	Specifications for Structural Concrete	Dogwood B
303	Architectural Concrete	Imperial West
311	Inspection of Concrete	Cottonwood A
318	Standard Building Code	Arboretum Center
325	Concrete Pavements	Holly
349	Concrete Nuclear Structures	Arboretum East
351	Foundations for Equipment and Machinery	Magnolia
408	Bond and Development of Reinforcement	Dogwood A
547	Refractory Concrete	Mesquite
—	ACI-ASCE Masonry Committee	Arboretum West I

THURSDAY

NOVEMBER 2

8:30 a.m. - 10:30 a.m.

116	Nomenclature	Cottonwood A
207	Mass Concrete	Magnolia
318	Standard Building Code	Arboretum Center
356	Industrialized Concrete Construction	Cottonwood B
421	Design of Reinforced Concrete Slabs	Arboretum East
428	Inelastic Behavior of Reinforced Concrete Structures	Redbud
547	Refractory Concrete	Mesquite

8:30 a.m. - 12:00 noon

INTERNATIONAL SYMPOSIUM ON FOUNDATIONS FOR EQUIPMENT AND MACHINERY

(sponsored by Committee 351) (1st session) Imperial West

8:30 a.m. - 12:30 p.m.

ADRIAN PAUW SYMPOSIUM ON DESIGNING FOR CREEP AND SHRINKAGE (sponsored by Committee 209)

(1st session) Imperial Center

9:00 a.m. - 12:00 noon

DESIGN, CONSTRUCTION AND MAINTENANCE PROBLEMS RELATING TO PARKING GARAGES

(ad hoc committee) Imperial East

— Board of Direction Dogwood B

10:30 a.m. - 12:30 p.m.

207	Mass Concrete	Magnolia
318	Standard Building Code	Arboretum Center
421	Design of Reinforced Concrete Slabs	Arboretum East
515	Coatings for Concrete	Arboretum West II
547	Refractory Concrete	Mesquite
E-703	Concrete Construction Practices	Cedar

2:00 p.m. - 4:00 p.m.

—	Board of Direction	Dogwood B
120	History of Concrete	Redbud
207	Mass Concrete	Magnolia
214	Evaluation of Results of Tests Used to Determine the Strength of Concrete	Arboretum West I
515	Coatings for Concrete	Arboretum West II
523	Insulating and Cellular Concrete	Cottonwood B
546	Repair of Concrete	Arboretum East
547	Refractory Concrete	Mesquite

2:00 p.m. - 5:30 p.m.

INTERNATIONAL SYMPOSIUM ON FOUNDATIONS FOR EQUIPMENT AND MACHINERY (sponsored by

Committee 351) (2nd session) Imperial West

ADRIAN PAUW SYMPOSIUM ON DESIGNING FOR CREEP AND SHRINKAGE (sponsored by

Committee 209) (2nd session) Imperial Center

SYMPOSIUM ON NONLINEAR BEHAVIOR OF REINFORCED AND PRESTRESSED CONCRETE STRUCTURES

(sponsored by Committee 428) (1st session) Imperial East

4:00 p.m. - 6:00 p.m.

—	Board of Direction	Dogwood B
306	Cold Weather Concreting	Magnolia
515	Coatings for Concrete	Arboretum West II
523	Insulating and Cellular Concrete	Cottonwood B
546	Repair of Concrete	Arboretum East
547	Refractory Concrete	Mesquite
549	Ferrocement	Redbud
E-801	Student Concrete Projects	Cedar

7:00 p.m. - 10:00 p.m.

FORUM: CONCRETE CONSTRUCTABILITY - THE ACI

CODE VERSUS FIELD IMPLEMENTATION (sponsored by Committee 114) Imperial West

7:30 p.m. - 9:30 p.m.

428	Inelastic Behavior of Reinforced Concrete Structures	Dogwood B
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FRIDAY
NOVEMBER 3

8:30 a.m. - 12:00 noon

SYMPOSIUM ON NONLINEAR BEHAVIOR OF REINFORCED CONCRETE AND PRESTRESSED CONCRETE (sponsored by Committee 428) (2nd session) Imperial East

8:30 a.m. - 12:30 p.m.

SYMPOSIUM ON IN-SITU STRENGTH EVALUATION OF CONCRETE (sponsored by Committee 214) Imperial West

9:00 a.m. - 12:00 noon

SYMPOSIUM ON MATHEMATICAL MODELING OF REINFORCED CONCRETE STRUCTURES (sponsored by Committee 442) Imperial Center



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TUESDAY, OCTOBER 31
1:00 p.m. - 5:00 p.m.

FORMWORK SAFETY FORUM

sponsored by ACI Committee E-703 in cooperation with ACI Committee 347

Imperial East

NOTE: A separate registration fee is charged for this forum of \$25.00 for ACI Members and \$30.00 for NonMembers. Since enrollment is limited, early registration is advised.

Moderator: Peter D. Courtois, chairman, ACI Committee 347, and vice-president, Superior Concrete Accessories, San Diego, California

Why Do We Have Formwork Failures?

Learning from experience; a review of leading causes immediately suggests some remedies

INSTRUCTOR: Dov Kaminetzky, principal, Feld, Kaminetzky, and Cohen, New York, New York

Coping with Codes and Standards

Playing the game by the rules: OSHA and ANSI A10.9. Review of new ACI formwork standard, 347-78; also new provisions for formwork in ACI 318-77 Building Code

INSTRUCTOR: M. K. Hurd, consultant, Farmington, Michigan

How to Design Forms for Improved Safety

Who does the design? Who is responsible? What problems can the designer forestall?

INSTRUCTOR: Dov Kaminetzky

Better Construction Practices for Greater Formwork Safety

A seasoned professional tells what to look out for at the job site; how to handle people problems

INSTRUCTOR: Paul H. Sommers, chief engineer, Algernon W. Blair Construction Company, Montgomery, Alabama

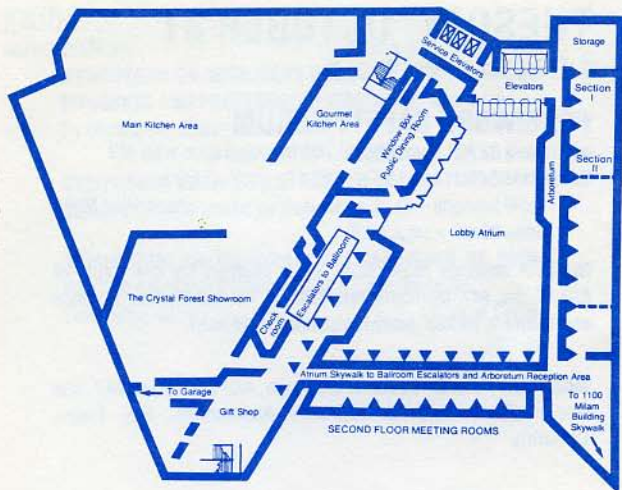
Question and Answer Session . . . led by a panel of members of ACI Committee 347, Formwork for Concrete.

H. S. Lew, National Bureau of Standards, Washington, D.C.
Doran S. Platt, Jr., George Hyman Construction Company, Bethesda, Maryland

Roger S. Johnston, K. C. Construction Supply Company, Denver Colorado

Denis I. Kearney, The Ceco Corporation, Chicago, Illinois

The panel will deal with questions and problems submitted in advance of the forum as well as questions from the audience.

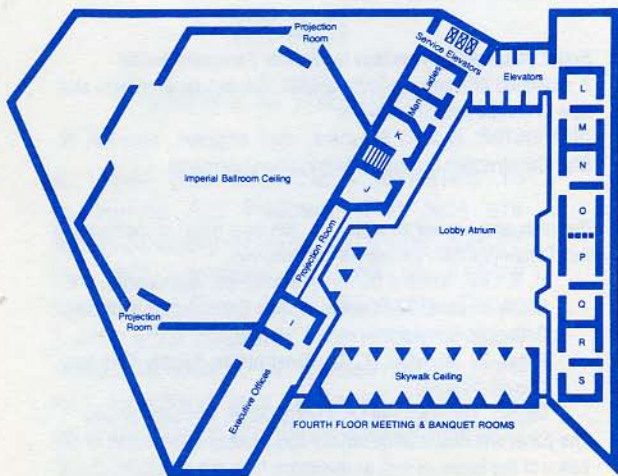
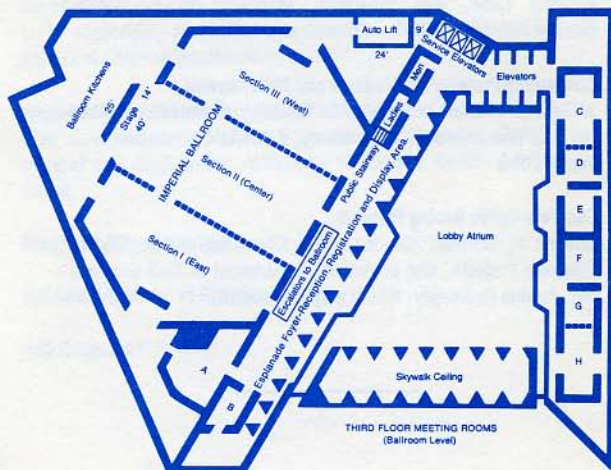


Second Floor Meeting Rooms Arboretum

West
I
II
Center
East

Third Floor Meeting Rooms (Ballroom Level)

- A Magnolia
- B Cypress (ACI Headquarters Office)
- C Cottonwood-A
- D Cottonwood-B
- E Mesquite
- F Redbud
- G Dogwood-A
- H Dogwood-B
- Imperial Ballroom



Fourth Floor Meeting Rooms

- I Mimosa
- J Live Oak
- K Willow
- L Pecan
- M Ebony
- N Raintree
- O & P Sandalwood Suite
- Q Cedar
- R Holly
- S Ponderosa

TUESDAY, OCTOBER 31
2:00 p.m. - 5:00 p.m.

STUDENT ACTIVITIES SEMINAR

sponsored by ACI Committee E-801

Imperial West

This program has been developed by the "Student Concrete Projects" Committee especially for engineering students. There is no fee for this program.

Discussion of the Technical Activities of ACI

Norman L. Scott, president, Consulting Engineers Group, Inc., Glenview, Illinois

Plans to Develop Performance Codes and Specifications for Design and Construction

Eugene P. Holland, chairman, ACI Committee 318, Standard Building Code, and president, Wiesinger-Holland Limited Chicago, Illinois

Community Projects for Students and Professionals

William E. Brewer, member, ACI Educational Activities Committee, and vice-president, engineering, Kuhlman Corporation, Toledo, Ohio

Concrete Canoe Racing Program

Charles F. Scholer, chairman, ACI Committee E-801, Student Concrete Projects, and professor, Department of Civil Engineering, Purdue University, West Lafayette, Indiana

WEDNESDAY, NOVEMBER 1
9:00 a.m. - 10:30 a.m.

(Starting at 8:40 a.m. a film will be shown introducing you to Houston. Don't miss it!)

GENERAL SESSION

Imperial Center

Session Chairman: William C. Moore, general chairman, 1978 ACI Fall Convention, and vice-president, Southern Inspection Service, Inc., Houston, Texas

Welcome

William C. Moore, session chairman

Keynote Address

C. H. Mullendor, Jr., senior vice-president, Transcontinental Gas Pipe Line Corporation, Houston, Texas

Raymond E. Davis Lecture: "But Where Are All the Cowboys . . ."

John E. Breen, J. J. McKetta professor of engineering, Department of Civil Engineering, University of Texas at Austin, Austin, Texas

Proposed Bylaws Revision

Acknowledgement of Chapter Officers

ACI Business*

*The presentation and discussion of Standards will be held in the Imperial East Ballroom beginning at 10:30 a.m.

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- COMMITTEE PARTICIPATION
- INFORMATION SEARCH SERVICE

For information write:

Membership Department
American Concrete Institute

WEDNESDAY, NOVEMBER 1

10:30 a.m. - 12:00 noon

STANDARDS PRESENTATION

Imperial East

Moderator: John L. Goetz, President, ACI, and senior vice-president, Southwestern Portland Cement Company, Los Angeles, California

Proposed Revisions to ACI 307-69, "Specification for the Design and Construction of Reinforced Concrete Chimneys"

Arthur B. Cassidy, chairman, ACI Committee 307, and vice-president, Marketing and Development, Pullman Power Products Division of Pullman Inc., New York, New York

Proposed ACI Standard 336, "Standard Specification for End Bearing Drilled Piers"

Clyde N. Baker, Jr., chairman, ACI Committee 336, and president, Soil Testing Services, Inc., Northbrook, Illinois

Proposed Addition to "Code Requirements for Safety Related Concrete Structures (ACI 349-76)" (Appendix B)

Dwaine A. Godfrey, chairman, Working Group on Embedments, ACI Committee 349, and president, Nuclear Structures, Inc., Atlanta, Georgia

Proposed Epoxy Standards:

503.1: "Standard Specification for Bonding Hardened Concrete, Steel, Wood, Brick, and Other Materials to Hardened Concrete with a Multi-Component Epoxy Adhesive"

503.2: "Standard Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive"

503.3: "Standard Specification for Producing a Skid-Resistant Surface on Concrete by the Use of a Multi-Component Epoxy System"

503.4: "Standard Specification for Repairing Concrete with Epoxy Mortars"

R. W. Gaul, chairman, ACI Committee 503, and president and general manager, Adhesive Engineering Company, San Carlos, California

Proposed ACI Standard: "Building Code Requirements for Concrete Masonry Structures"

Richard M. Gensert, chairman, ACI Committee 531, and president, Gensert, Peller, Mansini Associates, Cleveland, Ohio

WEDNESDAY, NOVEMBER 1

2:00 p.m. - 5:00 p.m.

ENERGY AND RESOURCE CONSERVATION

sponsored by the ad hoc committee on Energy and Resource Conservation

Imperial Center

Session Chairman: Anthony E. Fiorato, chairman, ad hoc committee on Energy and Resource Conservation, and manager, Construction Methods Section, Research and Development Division, Portland Cement Association, Skokie, Illinois

Energy Considerations in Cement and Concrete

Geoffrey Frohnsdorff, chief, Building Composites Program, Structures and Materials Division, Center for Building Technology, National Bureau of Standards, Washington, D. C.

Thermal Inertia in Architectural Walls

Francisco N. Arumi, associate professor, School of Architecture, University of Texas at Austin, Austin, Texas

Optimum Thermal Requirements for Buildings

Stanley E. Goodwin, senior engineer; and Mario J. Catani, director, Building Construction Department, Portland Cement Association, Skokie, Illinois

The Use of Concrete in Underground Energy Storage Facilities

David C. Willett, vice-president, Acres American, Inc., Buffalo, New York

Energy Conservation with Concrete

William M. Avery, publisher, Concrete Construction Publications, Inc., Addison, Illinois

NEW UPDATED PUBLICATIONS CATALOG

Write: Publications Catalog
American Concrete Institute
P.O. Box 19150
Detroit, Mich. 48219

WEDNESDAY, NOVEMBER 1

2:00 p.m. - 5:00 p.m.

RESEARCH ON PLAIN AND REINFORCED CONCRETE

(Brief and confidential reports)

sponsored by ACI Committee 115

Imperial East

Session Chairman: Boris Bresler, chairman, ACI Committee 115, and senior consultant, Wiss, Janney, Elstner & Associates, Inc., Emeryville, California

Secretary: Charles F. Scholer, secretary, ACI Committee 115, and professor, Department of Civil Engineering, Purdue University, West Lafayette, Indiana

Behavior and Analysis of Reinforced Concrete Box Girder Bridges

Mohamed I. Soliman, graduate student, M. Saeed Mirza, professor, and Gareth R. Thomas, associate professor, McGill University, Montreal, Quebec, Canada

Workability and Strength of Normal and Retempered Superplasticized Concretes

V. Ramakrishnan and W. V. Coyle, professors, Civil Engineering Department, South Dakota School of Mines & Technology, Rapid City, South Dakota

Shear Behavior of Composite Prestressed Concrete Girders

V. Kalyanaraman, professor, Department of Civil Engineering, University of Kentucky, Lexington, Kentucky

Research-In-Progress Report "Abrasion Studies of Concrete"

Tony C. Liu and James E. McDonald, U.S. Engineers Waterways Experiment Station, Vicksburg, Mississippi

Shear Behavior of Reinforced Concrete Beams with Low Values of Reinforcement

David Darwin, professor, and Michael Palaskas, University of Kansas, Lawrence, Kansas

Identification of Admixtures in Hardened Concrete Using High Pressure Liquid Chromatography

Larry Muszynski, graduate student, School of Civil Engineering, Purdue University, West Lafayette, Indiana

Structural (Cross Section) Analysis of Concrete Via Photon Tomography

Ira Lon Morgan, University of Texas, Austin, Texas

Deformational Behavior of Plain Concrete Subjected to Biaxial-Cyclical Loading

L. A. Traina, professor and A. A. Jeragh, graduate student, New Mexico State University, Las Cruces, New Mexico

Time-Dependent Behavior of Segmental Cantilever Concrete Bridges

K. N. Shiu and G. B. Barney, engineers, and H. G. Russell, manager, Structural Development Section, Portland Cement Association, Skokie, Illinois

Seismic Behavior of Reinforced Concrete Frames Design By Different Methods

Stephen Mahin, assistant professor, University of California, Berkeley, California; and Pulin Shah, engineer, EDS Nuclear, San Francisco, California



Schedule of ACI Seminars

November 30 - December 1

Hot and Cold Weather Concreting
co-sponsor: Missouri Chapter, ACI
Hilton Airport Plaza Inn
Kansas City, Missouri

December 7 - 8

Safety and Economy of Concrete Structures
6th Annual International ACI-IMCYC Seminar
Monterrey, Mexico

THURSDAY, NOVEMBER 2

8:30 a.m. - 12:00 noon

INTERNATIONAL SYMPOSIUM ON FOUNDATIONS FOR EQUIPMENT AND MACHINERY

sponsored by ACI Committee 351

Imperial West

Session Chairman: Tarun R. Naik, assistant professor of structural engineering, Department of Civil Engineering, University of Wisconsin—Milwaukee, Milwaukee, Wisconsin

Session I

Introduction

C. Raymond Hays, chairman, Committee 351, and manager of quality assurance, The Rust Engineering Company, Birmingham, Alabama

Keynote Address: Foundations For Dynamic Machine Loadings

Frank E. Richart, Jr., W. J. Emmons professor of civil engineering, University of Michigan, Ann Arbor, Michigan

Analysis and Design of Elevated Foundations for Reciprocating Machines

Suresh C. Arya, principal engineering specialist, CE Lummus, Combustion Engineering, Inc., Houston, Texas; and George Pincus, professor, Department of Civil Engineering, University of Houston, Houston, Texas

Controlling Automobile Shredder Vibration Through Pneumatic Isolation

Donald E. Baxa, assistant professor; and Robert W. Ebisch, science writer, Department of Engineering and Applied Science, University of Wisconsin Extension, Madison, Wisconsin

Analysis of Fan Foundations for Dynamic Loads

N. C. Chokshi and J. P. Lee, Brown & Root, Inc., Houston, Texas

The Technology of Base Plate Grouting

Gary R. Hall, chief chemist; George W. Read, Jr., vice-president; and Robert L. Trinklein, manager of research and development, Sauereisen Cements Company, Pittsburgh, Pennsylvania

THURSDAY, NOVEMBER 2

8:30 a.m. - 12:30 p.m.

ADRIAN PAUW SYMPOSIUM ON DESIGNING FOR CREEP AND SHRINKAGE

sponsored by ACI Committee 209

Imperial Center

Session Chairman: Brij B. Goyal, chairman, Subcommittee 209-V, and department head, Urban and Environmental Engineering Branch, Harza Engineering Company, Chicago, Illinois

Session I

Introduction

Brij B. Goyal, session chairman

Keynote Address

Max Zar, partner and head, Structural Department, Sargent and Lundy, Chicago, Illinois

Mass Reinforced Concrete Without Construction Joints

Mark Fintel, director, and S. K. Ghosh, senior structural engineer, Advanced Engineering Services, Portland Cement Association, Skokie, Illinois

Prediction of Creep, Shrinkage and Temperature Effects in Concrete Structures Part I

Domingo J. Carreira, concrete technologist, Project Engineering Division, Sargent and Lundy, Chicago, Illinois

Prediction of Long-Term Movements of In-Situ Reinforced Concrete Columns

R. N. Swamy, reader in civil and structural engineering, Department of Civil and Structural Engineering, University of Sheffield, Sheffield, England; and P. Arumugasamy, R. Travers Morgan and Partners, Consulting Engineers, London, England

New Model for Practical Prediction of Creep and Shrinkage

Zdenek P. Bazant, professor of civil engineering; and L. Panula, graduate research assistant, Northwestern University, Evanston, Illinois

Concrete Drying Shrinkage - Facts and Fallacies

Paul P. Kraai, manager of quality control, Kaiser Sand and Gravel, Pleasanton, California

A Parameter Study of Factors Affecting Time Dependent Slab Deflections

Andrew Scanlon, structural engineer, Structure Evaluation Section, Portland Cement Association, Skokie, Illinois

THURSDAY, NOVEMBER 2

9:00 a.m. - 12:00 noon

DESIGN, CONSTRUCTION AND MAINTENANCE PROBLEMS RELATING TO PARKING GARAGES

sponsored by the ad hoc committee on Parking Garages

Imperial East

Session Chairman: D. Wade Madeley, principal, Madeley Engineers and Associates, Houston, Texas

Functional Design

James M. Hunnicutt, president, James Madison Hunnicutt & Associates, Parking and Transportation Consultants, Washington, D.C.

Structural Design Including Post-Tensioning of Slabs with Rigid Shear Walls, Stability, Camber, Deflections

Pradeep H. Shah, vice-president, Conrad Associates East, A Division of Construction Research and Development, Inc., Chicago, Illinois

Deck Properties, Bonded vs. Unbonded Toppings, Joints and Joint Sealants

H. Carl Walker, president, Carl Walker & Associates, Inc., Kalamazoo, Michigan

Construction Problems and Solutions

Richard L. Tucker, professor, Department of Civil Engineering, University of Texas at Austin, Austin, Texas. To be presented in conjunction with Luther H. Hill Jr., president, Luther Hill & Associates, Inc., Dallas, Texas

Survey of Problems with the Performance of Parking Garages

Carl A. Peterson, senior structural engineer, Wiss, Janney, Elstner and Associates, Inc., Northbrook, Illinois

Principles of Watertight Concrete Construction for Parking Structures

Dave Monroe, technical sales representative and project manager, Harry S. Peterson Company, Inc., Sealant Engineers, Pontiac, Michigan

THURSDAY, NOVEMBER 2

2:00 p.m. - 5:30 p.m.

INTERNATIONAL SYMPOSIUM ON FOUNDATIONS FOR EQUIPMENT AND MACHINERY

sponsored by ACI Committee 351

Imperial West

Session Chairman: C. Raymond Hays, chairman, Committee 351, and manager of quality assurance, Rust Engineering Company, Birmingham, Alabama

Session II

Analysis of Foundations Subjected to Dynamic Loads by the Stiffness Method

Tarun R. Naik, assistant professor of structural engineering, Department of Civil Engineering, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin; and C. K. Wang, professor, Department of Civil and Environmental Engineering, University of Wisconsin-Madison, Madison, Wisconsin

Design Considerations for Dynamically Loaded Equipment Foundations

A. H. Karabinis, engineering specialist; and T. J. Fowler, senior Monsanto fellow, Monsanto Company, St. Louis, Missouri

Damage from Vibrations of Gangsaw Foundations

David Weiner, consulting engineer and research associate; and Bengt B. Broms, professor and head, Department of Soil and Rock Mechanics, Royal Institute of Technology, Stockholm, Sweden

Dynamic Analysis of Turbine-Generator Foundations

F. Aboul-Ella, research assistant, and M. Novak, professor, Faculty of Engineering Science, University of Western Ontario, London, Ontario, Canada

Development of a Spring-Mounted Turbine Support for a Floating Nuclear Plant

Richard S. Orr, chief engineer, Structural Engineering, Offshore Power Systems, Jacksonville, Florida

Foundations for Auto Shredders

Frank E. Richart, Jr., W. J. Emmons professor of civil engineering; and R. D. Woods, professor of civil engineering, University of Michigan, Ann Arbor, Michigan

Design and Performance of Machine Foundations: Typical Case Studies

P. Srinivasulu and N. Lakshmanan, scientists, Structural Engineering Research Center, Madras, India. Presented by Professor R. D. Woods, University of Michigan, Ann Arbor, Michigan

THURSDAY, NOVEMBER 2

2:00 p.m. - 5:30 p.m.

ADRIAN PAUW SYMPOSIUM ON DESIGNING FOR CREEP AND SHRINKAGE

sponsored by ACI Committee 209

Imperial Center

Session Chairman: Brij B. Goyal, chairman, Subcommittee 209-V, and department head, Urban and Environmental Engineering Branch, Harza Engineering Company, Chicago, Illinois

Session II

Prediction of Creep, Shrinkage and Temperature Effects in Concrete Structures Part II

Dan E. Branson, professor of materials engineering, University of Iowa, Iowa City, Iowa

The Calculation of Deflections of Reinforced Concrete Members - A Rational Approach

Heinrich Trost, professor of civil engineering, Aachen University of Technology, Aachen, Germany

Design Aids for Predicting Long-Term Prestress Losses Due to Creep and Shrinkage

G. Chadha, chief engineer, Inryco, Inc., Melrose Park, Illinois

Designing for Temperature, Moisture and Creep in Pavements

Bengt F. Friberg, consulting engineer, St. Louis, Missouri

Prediction of Creep, Shrinkage and Temperature Effects in Concrete Structures Part II

Zdenek P. Bazant, professor of civil engineering, Northwestern University, Evanston, Illinois

Design Considerations Dictated by Creep and Shrinkage in Prestressed Concrete Frames

M. S. Khalil, graduate student; W. H. Dilger and A. Ghali, professors of civil engineering, University of Calgary, Calgary, Alberta, Canada

Creep of Concrete for Reactor/Containment Building

Marwan A. Daye, Bechtel Power Corporation, Gaithersburg, Maryland

THURSDAY, NOVEMBER 2

2:00 p.m. - 5:30 p.m.

SYMPOSIUM ON NONLINEAR BEHAVIOR OF REINFORCED AND PRESTRESSED CONCRETE STRUCTURES

sponsored by ACI-ASCE Committee 428

Imperial East

Session Chairman: Vitelmo V. Bertero, chairman, ACI Committee 428, and professor of civil engineering, University of California, Berkeley, California

Session I

Introduction and Summary of the State-of-the-Art and the State-of-the-Practice on Nonlinear Behavior of Reinforced Concrete Structures

Vitelmo V. Bertero, session chairman

Constitutive Relations for Concrete: Endochronic and Plastic

Zdenek P. Bazant, professor of civil engineering, Northwestern University, Evanston, Illinois

Effect of Compressive Strength and Confinement on the Ductility of Lightweight Concrete

S. P. Shah, professor of civil engineering, and Antoine E. Naaman, associate professor of materials engineering, University of Illinois at Chicago Circle, Chicago, Illinois; and Jaime Moreno, manager of technical marketing, Concrete Products Division, Materials Service Corporation, Chicago, Illinois

Ductility of Plain and Confined Concrete Under Different Strain Rates

Walter H. Dilger, professor of civil engineering, The University of Calgary, Calgary, Alberta, Canada; Rainer Koch, research scientist, Otto-Graf-Institute, University of Stuttgart, Stuttgart, West Germany; and R. Kowalczyk, research scientist, Department of Structural Mechanics, Polish Academy of Sciences, Warsaw, Poland

The Effect of Bond in Interior Joints on Nonlinear Behavior of Ductile Moment Resisting Reinforced Concrete Frames

Egor P. Popov, professor of civil engineering; and Suthipool Viwathanatepa, graduate student, University of California, Berkeley, California

Geometric and Material Nonlinearities in Reinforced Concrete Sway Frames

Aldo Cauvin, assistant professor; and Giorgio Macchi, professor of structural engineering, University of Pavia, Pavia, Italy

Panel Discussion

THURSDAY, NOVEMBER 2

7:00 p.m. - 10:00 p.m.

FORUM: CONCRETE CONSTRUCTABILITY —ACI CODE VERSUS FIELD IMPLEMENTATION

sponsored by ACI Committee 114

Imperial West

The objective of this Forum is to bring contractors, design engineers, and others together to consider the problem of properly building that which has been designed. Actual field implementation frequently involves poor concrete construction practices because of an inability to accomplish that which is detailed and specified.

Presentations will be made as listed below and then the session will be opened for discussion with the speakers remaining as a panel to respond to questions.

Constructors, contractors, and engineers as well as engineering and construction students are **urged** to attend this Forum. There is no registration fee to attend.

Moderator: James M. Shilstone, director, The Concrete Associates, Inc., Dallas, Texas

Introduction: Concrete Construction As A System

James M. Shilstone, session moderator

ACI Code - Requirements and/or Alternatives for Engineering Judgment

Noel J. Everard, chairman, Department of Civil Engineering, University of Texas at Arlington, Arlington, Texas

An Overview of Building Construction Conditions

Jerry Corbetta, Corbetta Construction Company, Hamden, Connecticut

Reinforcing Steel Details to Improve Constructability

Rick Kujawa, Inryco, Inc., Melrose Park, Illinois

Construction Tolerances

Eugene H. Boeke, Jr., treasurer, Beers Construction Company, Atlanta, Georgia

FRIDAY, NOVEMBER 3

8:30 a.m. - 12:00 noon

SYMPOSIUM ON NONLINEAR BEHAVIOR OF REINFORCED CONCRETE AND PRESTRESSED CONCRETE STRUCTURES

sponsored by ACI-ASCE Committee 428

Imperial East

Session Chairman: M. Z. Cohn, professor of solid mechanics, University of Waterloo, Waterloo, Ontario, Canada

Session II

Behavior and Analysis of Continuous Beams Subjected to Uniform Loads

M. Saeed Mirza, professor of civil engineering; and Mohamed I. Soliman, graduate student, McGill University, Montreal, Quebec, Canada

Reinforced Concrete Columns Under Three-Dimensional Loading Histories

K. Maruyama and H. Ramirez, research assistants; and J. O. Jirsa, professor of civil engineering, Department of Civil Engineering, University of Texas at Austin, Austin, Texas

Nonlinear Design and Analysis of Reinforced Concrete Frames

Mauricio A. Gerlein, structural engineer, Stanley D. Lindsey and Associates, Ltd., Nashville, Tennessee; and Fred W. Beaufait, professor of civil engineering, Vanderbilt University, Nashville, Tennessee

Nonlinear Analysis of Reinforced Concrete Frames Under Cyclic Loading

Quazi A. Hossain, consultant engineer, Nuclear Services Corporation, Campbell, California; and Leonard R. Herrmann, professor of civil engineering, University of California, Davis, California

Inelastic Frame Behavior During Shaking Table Tests

Ray W. Clough, professor of civil engineering; and Michael G. Oliva, graduate student, University of California, Berkeley, California

Double Reinforcement for Seismic Resistance in Reinforced Concrete Frames

James C. Anderson, assistant professor of civil engineering, University of Southern California, Los Angeles, California

Analytical/Experimental Modeling of Connections

William H. Townsend, assistant professor of civil engineering, State University of New York at Buffalo, Buffalo, New York; and James C. Anderson, assistant professor of civil engineering, University of Southern California, Los Angeles, California

Shear Capacity of T-Beam-Column Connections

William H. Townsend, assistant professor of civil engineering, State University of New York at Buffalo, Buffalo, New York

Panel Discussion

FRIDAY, NOVEMBER 3

8:30 a.m. - 12:30 p.m.

SYMPOSIUM ON IN-SITU STRENGTH EVALUATION OF CONCRETE

sponsored by ACI Committee 214

Imperial West

Session Chairman: Richard D. Gaynor, vice-president of engineering and research, National Ready Mixed Concrete Association, Silver Spring, Maryland

Opening Remarks

V. M. Malhotra, chairman, ACI Committee 214, and head, Construction Materials Section, CANMET, Department of Energy, Mines and Resources, Ottawa, Ontario, Canada

Need For In-Situ Testing of Concrete

Robert E. Philleo, chief, Structures Branch, Engineering Division, Civil Works, Office, Chief of Engineers, Washington, D.C.

In-Situ Strength Evaluation of Concrete - Case Histories and Laboratory Investigations

Rowland J. Kopf, president, Densicon, Inc., Elmwood, Connecticut; Claude G. Cooper, director of inspection, Division of Inspection Services, County of Fairfax, Fairfax, Virginia; and Freeman Williams, executive vice-president, Ambric Testing Laboratory, Alexandria, Virginia

In-Situ Strength Evaluation of Concrete by the Lok-Test System

Peter Kierkagaard-Hansen, professor of civil engineering, Technical University of Copenhagen, Denmark; and John A. Bickley, vice-president, Trow Group Limited, Rexdale, Ontario, Canada

In-Situ Strength Evaluation of Concrete - The "Break-Off" Method

Randulf I. Johansen, head, Construction and Control, Cement and Concrete Research Institute, The Norwegian Institute of Technology, Trondheim, Norway

Investigations Into the Development of New Pull Out Techniques for In-Situ Strength Determination of Concrete

G. Maillhot; and Andre Bisailon, president, Laboratoire de Beton Ltee, Montreal, Quebec, Canada; Georges G. Carette, materials engineer, Mineral Sciences Laboratories, and V. M. Malhotra, head, Construction Materials Section, CANMET, Department of Energy, Mines and Resources, Ottawa, Ontario, Canada

Concrete Squeals - Tells the Whole Story - Another Look at Non-Destructive Testing

Donald E. Dixon, materials engineer; and Robert S. Jenkins, project engineer, Law Engineering Testing Company, Atlanta, Georgia

Non-Destructive Tests to Predict Long-Term Strength

David A. Anderson, assistant professor, Department of Civil Engineering, The Pennsylvania State University, University Park, Pennsylvania

Determination of In-Situ Concrete Strength by the Maturity Method

Tarun R. Naik, assistant professor of structural engineering, Department of Civil Engineering, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin

Summary of Additional Papers

Reporter: V. Ramakrishnan, professor of civil engineering, South Dakota School of Mines and Technology, Rapid City, South Dakota

In-Situ Strength Evaluation of Concrete

H. N. Tomsett, Cement and Concrete Association, Birmingham, England

A Simple Pull-Out Test to Assess the In-Situ Strength of Concrete

A. J. Chabouski and D. Bryden-Smith, Building Research Establishment, Department of the Environment, England

Comparison of Pull-Out Strength of Concrete with Compressive Strength of Cylinders and Cores, Pulse Velocity and Rebound Number

V. M. Malhotra and G. Carette, CANMET, Department of Energy, Mines and Resources, Ottawa, Ontario, Canada

Use of Combined Ultrasonic and Rebound Hammer Method for Determining Strength of Concrete Structural Members

A. Samarin, principal research engineer and P. Meynink, research engineer, Ready Mixed Concrete Ltd., Sydney, N.S.W., Australia

The Use of Pulse Velocity Techniques to Evaluate Epoxy Grout Repairs

Joe A. Amon, Law Engineering Testing Company, Louisville, Kentucky; and Luke M. Snell, Law Engineering Testing Company, Nashville, Tennessee

Pulse Velocity - Maturity Concept, Strength Evaluation

V. Ramakrishnan, reporter

FRIDAY, NOVEMBER 3

9:00 a.m. - 12:00 noon

SYMPOSIUM ON MATHEMATICAL MODELING OF REINFORCED CONCRETE STRUCTURES

sponsored by ACI Committee 442

Imperial Center

Session Chairman: Ignacio Martin, interim chairman, ACI Committee 442, and partner, Capacete-Martin & Associates, Santurce, Puerto Rico

An Elasto-Plastic Analysis of a Core Subjected to Torsion

J. Schwaighofer, professor of civil engineering, University of Toronto; and H. Microys, senior designer, Parkin Engineers Ltd., Toronto, Ontario, Canada

Effect of Inplane Floor Slab Flexibility on Response of Crosswall Building System

Alan L. Unemori, engineer, Bechtel Corporation; Jose M. Roesset, professor of civil engineering, University of Texas at Austin, Austin, Texas; and James M. Becker, associate professor of civil engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts

Theoretical and Experimental Studies of the Response of Reinforced Concrete Structures to Earthquake Motions

Mete A. Sozen, professor, Department of Civil Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois

Nonlinear Behavior of Reinforced Concrete Building Structures Especially Under Earthquake Motions

S. Otani, associate professor, Department of Civil Engineering, University of Toronto, Toronto, Ontario, Canada

Analysis of Wide-Flanged Shear Wall Structures

A. Coull, Regius professor of civil engineering, University of Glasgow, Glasgow, Scotland; and S. A. Abu El Magd, research assistant, College of Technology, Paisley, Scotland

Behavior of Unbraced Multi-Paneled Frames Containing Heavily Loaded Columns

J. Stephen Ford, project engineer, Ellisor & Tanner, Inc., Dallas, Texas; and John E. Breen, J. J. McKetta professor of engineering, Department of Civil Engineering, University of Texas at Austin, Austin, Texas

LADIES' PROGRAM

Hospitality: Sandalwood Suite, Fourth Level

Morning coffee and light refreshments will be provided in the hospitality room starting Monday morning at 9:00 a.m. The suite will be open all day and will act as a meeting and gathering place for attendees.

PROGRAM SCHEDULE

SUNDAY, OCTOBER 29

1:00 p.m. - 5:00 p.m.

Registration

MONDAY, OCTOBER 30

9:00 a.m.

Registration

1:30 p.m. - 5:00 p.m.

Orientation and Tour of Houston

An in-depth view of Houston - Rice University and world-renowned Texas Medical Center where medical history is made daily. Historical beginning of Houston - Sam Houston Park, Civic Center, which includes Jones Hall for the performing arts and the Alley Theatre with two stages within its walls. See the magnificent mansions of millionaires and well-known names in exclusive River Oaks. Hermann Park with its award winning Miller Memorial Theatre and, a sign of Houston thoughtfulness, the Fragrant Gardens - planned especially for the blind. And, of course, the Astrodome! Classed as the Eighth Wonder of the World, this truly unique structure maintains a constant 72° temperature the year round and can be converted within a few hours to accommodate most any type of sports event - from baseball to polo to motorcycle races. Admission to the Astrodome is included. Cost per person: \$8.00

TUESDAY, OCTOBER 31

10:00 a.m. - 3:30 p.m.

The Galleria. Lunch at Brennan's

The Galleria Shopping Center - in the Magic Circle - is the home of over 200 boutique and specialty shops surrounding a year-round ice skating rink. In addition to the outstanding shopping, there are many truly fine restaurants, and of course, the Galleria is also the Houston home of world-famous Neiman Marcus. Galleria II has recently opened adjacent to Galleria I and is a splendid complement to what is already one of the World's most exciting shopping complexes. Luncheon at Brennan's in the gorgeous, garden-like atmosphere that makes Brennan's truly unique. At the end of the day, a glass of wine will be served on the way to the hotel. Cost per person: \$16.00.

WEDNESDAY, NOVEMBER 1

9:30 a.m. - 11:00 a.m.

Breakfast and "Rap" Session for the Ladies

A chance for the ladies to find out everything you have ever wanted to know about ACI! This session will be moderated by Past President Richard C. Mielenz and is designed to let you let us know what's on your mind about the Institute and its functions. Come and air your views and questions! Free.

1:30 p.m. - 4:00 p.m.

Special Seminar for today's woman: "Time Management for the Busy Homemaker."

Women at home and women that combine work outside the home with homemaking, have some of the most terrific time problems of all. This program focuses on the problems of balancing the demands of husband and children, outside jobs, and personal desires and goals. It shows women how to stop running in circles; how to define what they want from life - and how to get it!

Your instructor is Donna Niksch Douglass. Mrs. Douglass is the Associate Director of Time Management Center and mother to three children. She received her master's degree from Indiana University in Comparative Education. She has taught at both Georgia State University and North Georgia College. She is the author of "Relaxation Made Easy" and "Study Skills and Time Management for Students." She is currently working on a book for homemakers. There is no fee for this session.

THURSDAY, NOVEMBER 2

10:00 a.m. - 3:30 p.m.

NASA Space Center and Luncheon at Houston Yacht Club

A must for every age visitor to Houston is a visit to the Lyndon B. Johnson Manned Spacecraft Center where you will see Mercury, Gemini and Apollo spaceships, moon rocks, space food and other interesting mementos in the Visitor Orientation Center. An on-your-own walking tour of the facility takes you into the building for space simulation where the astronauts train, and the flight acceleration building where tests are made to train men for space flight stresses. Luncheon at the Houston Yacht Club - a private club situated on the bay waters and the meeting place for yachting enthusiasts of the area. Cost per person: \$16.00.

