PROGRAM

SPECIAL EVENTS

aci

65th ANNUAL EXHIBITS-CONVENTION

Palmer House Hotel
Chicago, Illinois

March 30-April 4, 1969

BOARD OF DIRECTION

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TECHNICAL ACTIVITIES COMMITTEE

(In charge of convention program and of technical publications)

ROBERT E. PHILLEO, *Chairman*
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*Address
AMERICAN CONCRETE INSTITUTE
P.O. Box 4754
Detroit, Michigan 48219

— CONVENTION REGISTRATION —

Sunday, March 29 through Thursday, April 3 . . . . . 8:00 a.m. to 6:00 p.m.
Friday, April 4 . . . . . 8:00 a.m. to 2:00 p.m.

REGISTRATION FEES:	
ACI Members	$15.00
Nonmembers	$25.00
Students	Free

Registration fees cover attendance at all ACI technical committee meetings, general sessions, symposia, tours, and the social hour.

* * * SPECIAL EVENTS * * *

- **Technical-Educational Exhibits** . . . Tuesday through Thursday in the Upper Exhibit Hall on the fourth floor.
- **"Concrete Mixer" Social Hour** . . . Tuesday, 6:30 p.m. in the Red Lacquer Room. Please wear your badge.
- **Chapter Forum** . . . Wednesday 9:00 a.m. in Dining Room #9. Scheduled by the Board Committee on Chapter Activities. An informal roundtable on chapter activities and organization.
- **Portland Cement Association Alumni Social Hour** . . . Wednesday, 5:00 p.m., Dining Room #11.
- **Awards Luncheon and Installation of New ACI Officers** . . . Thursday, 12:15 p.m., in the Red Lacquer Room. One may purchase tickets up to 2:00 p.m., Wednesday, April 2, at the Registration Desk.
- **University of Illinois "Cash Bar" Reception** . . . Thursday, 5:30 p.m. in Dining Room #18. Tickets are available from alumni and University of Illinois staff members.
- **Photo Display** . . . 15-20 panels of unusual and outstanding concrete structures from all over the world. Monday through Friday.
- **Student Architectural Designs** . . . Sketches and models representing classwork.

NOTE TO ACI MEMBERS

Each ACI member will be given a packet of ballots at registration. It is the only set that will be issued you at this meeting. It is therefore important to protect them from loss and to bring them with you to the General Session at which matters will be presented for vote.

SPECIAL EVENTS

BREAKFASTS

7:30 a.m. (By invitation only)

Tuesday, April 1 — Breakfast for newly appointed chairmen of technical committees. Dining Room #11.

Wednesday, April 2 — Program participants in Wednesday Bridge Symposium and Menzel Symposium. Dining Room #11.

Thursday, April 3 — Program participants in Thursday Bridge Symposium and Research Sessions. Dining Room #11.

Friday, April 4 — Program participants of Friday's sessions. Dining Room #4.

TECHNICAL COMMITTEE MEETINGS

Meeting topics are in italics. Be sure to check the bulletin board near the Registration Desk for last-minute changes or added meetings.

MONDAY, March 31 — 9 a.m. to 12 noon

COMMITTEE		Meeting Room
117	Tolerances	Dining Rm. #7
209	Subcommittee 1 of Committee 209, Creep and Shrinkage in Concrete *(State of the art; 1970 symposium)*	Rm. #784
215	Subcommittee IIB of Committee 215. Fatigue of Concrete	Rm. #783
301	Specifications for Structural Concrete *(Revised drafts for new Guide)*	Dining Rm. #18
309	Consolidation of Concrete *(Draft reports; Research needs)*	Dining Rm. #14
316	Construction of Concrete Pavements and Concrete Bases *(Revised draft)*	Dining Rm. #6
340	Ultimate Strength Design Handbook *(USD Handbook, Volume 2)*	Rm. #786
344	Circular Prestressed Concrete Structures *(Final report)*	Rm. #785
345	Concrete Bridge Decks *(Proposed standard)*	Rm. #779
347	Formwork for Concrete *(Revised Manual)*	Dining Rm. #4
423	Prestressed Concrete—Joint ACI-ASCE *(Tentative recommendations of flat slabs)*	Wabash
426	Shear and Diagonal Tension—Joint ACI-ASCE *(Subcommittee structure and task reports)*	Dining Rm. #17
504	Joint Sealants *(Revised reports)*	Dining Rm. #8
524	Portland Cement Plastering *(Rough draft of recommended practice)*	Dining Rm. #16

MONDAY, March 31

2:00 p.m. to 5:00 p.m.

COMMITTEE		Meeting Room
209	Subcommittee 2 of Committee 209. Creep and Shrinkage in Concrete *(State of the art; 1970 Symposium)*	Rm. #784
224	Cracking *(Subcommittee reports)*	Dining Rm. #17
301	Specifications for Structural Concrete *(Revised drafts for new Guides)*	Dining Rm. #18
307	Reinforced Concrete Chimneys *(Proposed standard)*	Dining Rm. #6
309	Consolidation of Concrete *(Draft reports; research needs)*	Dining Rm. #14
315	Detailing Reinforced Concrete Structures *(Revision of Detailing Manual beyond 315-70)*	Dining Rm. #4
318	Subcommittee 1 of Committee 318, Standard Building Code—General Requirements *(1970 Code)*	Rm. #786
344	Circular Prestressed Concrete Structures *(Final report)*	Dining Rm. #785
349	Criteria for Nuclear Containment Vessels *(2:30 p.m. Task group)*	Dining Rm. #11
352	Joints and Connections in Monolithic Structures *(Recommendations for design of beam-column and slab-column joints)*	Dining Rm. #8
354	Design Practice *(Procedures for 1-story industrial building)*	Rm. #779
441	Concrete Columns—Joint ACI-ASCE *(Summary report; current research)*	Wabash
443	Concrete Bridge Design	Dining Rm. #5
523	Insulating and Cellular Concretes	Dining Rm. #7
524	Portland Cement Plastering *(Rough draft of recommended practice)*	Dining Rm. #16

7:00 p.m.

201	Durability of Concrete *(Revised report)*	Monroe
209	Creep and Shrinkage in Concrete *(State of the art; 1970 Symposium)*	Dining Rm. #9
309	Consolidation of Concrete *(Draft reports; research needs)*	Dining Rm. #14
318	Subcommittee 9 of Committee 318. Standard Building Code—General Design *(1970 Code)*	Dining Rm. #5
322	Design of Structural Plain Concrete	Dining Rm. #7

MONDAY, March 31

COMMITTEE		Meeting Room
349	Criteria for Nuclear Containment Vessels *(second draft)*	Dining Rm. #6
437	Strength Evaluation of Existing Concrete Structures *(Subcommittee 2 report)*	Dining Rm. #8
512	Precast Structural Concrete *(Proposed standard)*	Dining Rm. #18
515	Coatings for Concrete *(Draft of recommended practice)*	Dining Rm. #16
517	Low Pressure Steam Curing *(Revised standard)*	Dining Rm. #17

TUESDAY, April 1 — 9 a.m. to 12 noon

—	Board Committee on Research	Dining Rm. #4
116	Nomenclature *(Supplements to ACI's SP-19, Cement and Concrete Terminology)*	Rm. #783
207	Mass Concrete *(Committee report)*	Dining Rm. #7
212	Admixtures	Dining Room #14
213	Lightweight Aggregates and Lightweight Aggregate Concrete *(Subcommittee reports; 1970 Symposium)*	Dining Rm. #18
223	Expansive Cement Concretes *(Future activities)*	Dining Rm. #8
303	Architectural Concrete *(Final report)*	Dining Rm. #17
305	Hot Weather Concreting *(Final draft)*	Dining Rm. #16
308	Curing Concrete *(Recommended Practice)*	Dining Rm. #9
318	Standard Building Code *(1970 Code)*	Wabash
344	Circular Prestressed Concrete Structures *(Final report)*	Rm. #785
350	Sanitary Engineering Structures *(Recomended Practice)*	Dining Rm. 6
438	Torsion *(Current research and design recommendations)*	Rm. #779
443	Concrete Bridge Design	Dining Rm. #5
503	Adhesives for Concrete	Rm. #786
543	Concrete Piles *(Chapter II—Design)*	Rm. #784

2:00 p.m. to 5:00 p.m.

—	Ad hoc Committee on Structural Models	Rm. #786
114	Research and Development	Dining Rm. #7
118	Use of Computers *(Symposium details)*	Dining Rm. #16

TUESDAY, April 1

COMMITTEE		Meeting Room
119	Education *(Implementation of local programs)*	Dining Rm. #9
211	Proportioning Concrete Mixes *(Revised standard)*	Dining Rm. #8
213	Lightweight Aggregates and Lightweight Aggregate Concrete *(Subcommittee reports; 1970 Symposium)*	Dining Rm. #18
318	Standard Building Code *(1970 Code)*	Wabash
344	Circular Prestressed Concrete Structures *(Final report)*	Rm. #785
350	Sanitary Engineering Structures *(Recommended Practice)*	Dining Rm. #6
408	Bond Stress *(Committee report)*	Dining Rm. #14
435	Deflection of Concrete Building Structures	Dining Rm. #11
438	Torsion *(Current research and design recommendations)*	Rm. #779
443	Concrete Bridge Design	Dining Rm. #5
506	Shotcreting *(Draft of specification)*	Dining Rm. #4
516	High Pressure Steam Curing *('69 Convention Symposium; future business)*	Dining Rm. #17
543	Concrete Piles *(Chapter II—Design)*	Rm. #784

6:30 p.m.
"Concrete Mixer" social hour
. . . Red Lacquer Room

WEDNESDAY, April 2 — 9 a.m. to 12 noon

—	Chapter Forum *(Chapter organization)*	Dining Rm. #9
222	Corrosion of Metals in Concrete	Dining Rm. #6
302	Concrete Floor Finishes *(Future activities)*	Dining Rm. #14
311	Inspection of Concrete *(Codification of inspection; update Manual SP-1)*	Dining Rm. #18
318	Standard Building Code *(1970 Code)*	Wabash
332	Residential Concrete Work *(Task groups)*	Rm. #779
333	Composite Construction—Joint ACI-ASCE	Dining Rm. #17
334	Concrete Shell Design and Construction	Rm. #783
428	Limit Design—Joint ACI-ASCE *(Committee report)*	Dining Rm. #5
439	High Strength Reinforcement in Concrete	Dining Rm. #7

WEDNESDAY, April 2

COMMITTEE		Meeting Room
442	Response of Buildings to Lateral Forces *(Preparation of committee report)*	Dining Rm. #8
533	Precast Panels *(Subcommittee agenda; Committee report)*	Dining Rm. #16
543	Concrete Piles *(Chapter II—Design)*	Rm. #786

2:00 p.m. to 5:00 p.m.

215	Fatigue of Concrete *(Committee report on design of structures)*	Dining Rm. #7
304	Measuring, Mixing, Transporting and Placing Concrete *(Committee reports; revised standard)*	Dining Rm. #18
318	Standard Building Code *(1970 Code)*	Wabash
325	Structural Design of Concrete for Highways and Airports *(Reports of subcommittee V and VII)*	Rm. #785
334	Concrete Shell Design and Construction	Rm. #783
336	Combined Footings and Pier Foundations *(Draft report)*	Dining Rm. #6
348	Structural Safety	Dining Rm. #17
421	Reinforced Concrete Slabs—Joint ACI-ASCE *(Future activities)*	Dining Rm. #14
428	Limit Design—Joint ACI-ASCE *(Committee report)*	Dining Rm. #5
532	Lightweight Concrete Masonry	Dining Rm. #4
533	Precast Panels *(Subcommittee agenda; committee report)*	Dining Rm. #16
543	Concrete Piles *(Chapter II—Design)*	Rm. #786
544	Fiber-Reinforced Concrete *(Outline for state of art)*	Dining Rm. #9

7:00 p.m.

214	Evaluation of Results of Strength Tests of Concrete	Rm. #779
216	Fire Resistance and Fire Protection of Structures *(Guide on rational design)*	Dining Rm. #17
313	Concrete Bins and Silos	Rm. #785
531	Concrete Masonry Structure *(Report ready for final ballot)*	Dining Rm. #14
533	Precast Panels *(Subcommittee agenda; committee report)*	Dining Rm. #16

WEDNESDAY, April 2 — 9 a.m. to 12 noon

SECOND INTERNATIONAL SYMPOSIUM ON CONCRETE BRIDGE DESIGN

(ACI Committee 443)

. . . Red Lacquer Room

GENERAL CHAIRMAN	CO-CHAIRMAN
Shu-t'ien Li, chairman, ACI Committee 443, and professor, Civil Engineering Department, South Dakota School of Mines and Technology, Rapid City	T. Y. Lin, vice-chairman, ACI Committee 443, and professor, Department of Civil Engineering, University of California, Berkeley

PROGRAM CHAIRMAN: Leonidas T. Delyannis, chairman, ACI Committee 443-A, Symposium Program Committee, and chief bridge engineer, David Volkert & Associates, Consulting Engineers, Washington, D.C.

Opening Remarks on the Symposium — Leonidas T. Delyannis

Opening Address — Shu-t'ien Li

SUBJECT: Loads, Skew Decks, and Fatigue

CHAIRMAN	CO-CHAIRMAN
Arthur R. Anderson Vice-president, ABAM Engineers, Inc. Consulting Engineers Tacoma, Washington	J. Dudra, partner Phillips, Barratt, Hiller, Jones & Partners Consulting Engineers Vancouver, B.C., Canada

SECRETARY: Robert G. Lium, bridge engineer, Sverdrup & Parcel & Associates, Inc., Bellevue, Washington

A Highlight Introduction — Arthur R. Anderson, session chairman

Comparison of Live Loads Used in Highway Bridge Design in North America with Those in Western Europe — Alfio Seni, senior structural engineer, Lalonde, Valois, Lamarre, Valois & Associates, Consulting Engineers, and lecturer for bridge engineering, University of Montreal, Montreal, Quebec, Canada

Design of Simply-Supported Skew Concrete Girder Bridges — Amin Ghali, associate professor, Department of Civil Engineering, University of Calgary, Calgary, Alberta, Canada

Expected Fatigue Life of Prestressed Concrete Highway Bridges as Related to the Expected Load Spectrum — Paul W. Abeles, visiting professor; and Earl I. Brown, II, professor, Department of Civil Engineering, Duke University, Durham, North Carolina

Lateral Displacements and Rotations of Skew Continuous Prestressed Concrete Bridge Decks — Jacob Shimoni, partner, Yaron-Shimoni, Consulting Engineers, Tel Aviv, Israel, and senior lecturer, Israel Institute of Technology, Haifa

2:00 p.m. to 5:00 p.m.

SUBJECT: Slab Bridges

CHAIRMAN	CO-CHAIRMAN
T. Y. Lin, professor Department of Civil Engineering University of California Berkeley	Ben C. Gerwick, Jr. president Ben C. Gerwick, Inc. San Francisco, California

SECRETARY: John J. Fiala, partner, Hardesty & Hanover, Consulting Engineers, New York, N.Y.

A Highlight Introduction — T. Y. Lin, session chairman

Wide Slab Bridge Behavior and Design — I. Hossain, research assistant; and R. Green, associate professor, Department of Civil Engineering, University of Waterloo, Ontario, Canada

Influence Characteristics for Slab Bridges — Gyan Chandra Nayak, reader, Department of Civil Engineering, University of Roorkee, Roorkee, U. P., India; and John Duncan Davies, reader, Department of Civil Engineering, University of Wales, Swansea, Wales, United Kingdom

Analysis of Slabs with Edge Beams — John Duncan Davies, reader; C. J. Parekh, research assistant; and O. C. Zienkiewicz, head, Department of Civil Engineering, University of Wales, Swansea, Wales, United Kingdom

The Second 24-Mile Prestressed Concrete Bridge Over Lake Pontchartrain — David G. Volkert, president; and Lewis Levine, chief structural engineer, David Volkert & Associates, Consulting Engineers, Washington, D.C.

7:30 p.m.

SUBJECT: Box and Cellular Girder Bridges

CHAIRMAN	CO-CHAIRMAN
Anthony R. Cusens, professor and head, Civil Engineering Department, University of Dundee, Dundee, Scotland	Laurence Cazaly, principal Cazaly Associates Consulting Engineers Toronto, Ontario, Canada

SECRETARY: Karl G. Tamberg, bridge research engineer, Ontario Department of Highways, Downsview, Ontario, Canada

A Highlight Introduction — Anthony R. Cusens, session chairman

Stresses in Continuous Concrete Box Girder Bridges — A. C. Scordelis, professor, Department of Civil Engineering, University of California, Berkeley; and R. E. Davis, senior bridge engineer, California Division of Highways, Sacramento

Model Analysis of a Curved Prestressed Cellular Bridge — H. W. Chung, lecturer, Department of Civil Engineering, University of Hong Kong, Hong Kong; and N. J. Gardner, assistant professor, Department of Civil Engineering, University of Ottawa, Ottawa, Ontario, Canada

An Experimental and Analytical Investigation of a Horizontally Curved Box-Beam Highway Bridge Model — I. K. Aneja, structural research engineer, Sun Shipbuilding and Dry Dock Co., Chester, Pennsylvania; and Frederic Roll, professor, Department of Civil Engineering, University of Pennsylvania, Philadelphia

Analysis of Interconnected Box-Girder Bridges with Longitudinal Overhangs — P. S. Dravid, associate director, Concrete Technology Research, South Dakota School of Mines and Technology, Rapid City; and V. S. Shah, lecturer, L. D. College of Engineering, Ahmedabad, Gujerat, India

THURSDAY, April 3 — 9 a.m. to 12 noon

BRIDGE SYMPOSIUM (continued)

. . . State Ballroom

SUBJECT: Ultimate Load Analysis and Ultimate Strength Design

CHAIRMAN	CO-CHAIRMAN
Noel J. Everard, professor Department of Engineering Mechanics University of Texas at Arlington Arlington	Frederic Roll, professor Department of Civil Engineering University of Pennsylvania Philadelphia

SECRETARY: A. Murray Lount, consulting engineer, Toronto, Ontario, Canada

A Highlight Introduction — Noel J. Everard, session chairman

Torsional Strength of Rectangular Concrete Beams in Bridge Design — Mahmoud A. Helmy, lecturer, Department of Structural Engineering, Alexandria University, Alexandria, U.A.R.

The Effect of Fatigue on Ultimate Load Behavior of Concrete Bridge Decks — F. Sawko, professor, Department of Civil Engineering, University of Liverpool, Liverpool, U. K.; and Gouranga Prasad Saha, Highway & Bridges Department, West Riding County Council, Wakefield, U. K.

Ultimate Shear Tests of Large Prestressed Concrete Bridge Beams — John M. Hanson, principal research engineer, Structural Research Section, Research and Development Division, Portland Cement Association, Skokie, Illinois; and C. L. Hulsbos, chairman, Department of Civil Engineering, University of New Mexico, Albuquerque

Limit Design for Concrete Bridges — V. Ramakrishnan, head; S. Rajasekaran, lecturer; and R. Krishnamoorthy, lecturer, Department of Civil Engineering, P. S. G. College of Technology, Coimbatore, South India

2:30 to 5:00 p.m.

SUBJECT: Service Load Analysis and Working Stress Design

CHAIRMAN	CO-CHAIRMAN
V. Ramakrishnan, head Department of Civil Engineering P. S. G. College of Technology Coimbatore, South India	W. Gene Corley, manager Structural Development Section Research and Development Division Portland Cement Assn. Skokie, Illinois

SECRETARY: Thomas T. C. Hsu, associate professor, Department of Civil Engineering, University of Miami, Miami, Florida

A Highlight Introduction — V. Ramakrishnan, session chairman

A Load Distribution Method of Analyzing Statically Indeterminate Concrete Bridge Decks — Ricardo P. Pama, research fellow and honorary lecturer; and Anthony R. Cusens, head, Department of Civil Engineering, University of Dundee, Dundee, Scotland

Torsional Stiffness of Reinforced Concrete Bridge Girders — G. S. Pandit, head, Department of Structural Engineering, Malaviya Regional Engineering College, Jaipur, India

Evaluation of the Concrete Code Resistances by Compression While Calculating Reinforced Concrete Bridges — Oleg Ja. Berg, professor and department head, All Union Research Institute for Transport Construction, Moscow, USSR

Post-Tensioning with Threadbars — Richard Heinen, structural engineer, Dyckerhoff & Widmann KG, New York, N.Y.

7:30 p.m.

SUBJECT: Composite Bridge Design

CHAIRMAN	CO-CHAIRMAN
George S. Richardson, senior partner Richardson, Gordon & Associates Pittsburgh, Pennsylvania	D. A. VanHorn, chairman Department of Civil Engineering Lehigh University Bethlehem, Pennsylvania

SECRETARY: R. Green, associate professor, Department of Civil Engineering, University of Waterloo, Waterloo, Ontario, Canada

A Highlight Introduction — George S. Richardson, session chairman

Study on the Application of Composite Beams to Railway Bridges — Yoshio Ozaka, principal structural engineer; and Shohiko Miyata, structural engineer, Structure Design Office, Japanese National Railways, Tokyo, Japan

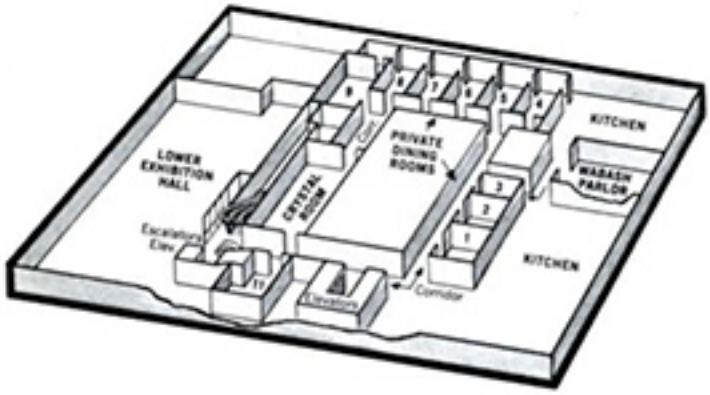
A Continuous Composite Steel-Concrete Bridge Prestressed by Deformations of the Interior Supports — Carl Berwanger, associate professor, Department of Civil Engineering, University of Ottawa, Ottawa, Ontario, Canada

Predeflected Composite Steel-Concrete Beams — Barrington de V. Batchelor, associate professor, Department of Civil Engineering, Queen's University, Kingston, Ontario, Canada; and Sat P. Setya, project engineer, Robert Halsall & Associates, Ottawa, Ontario, Canada

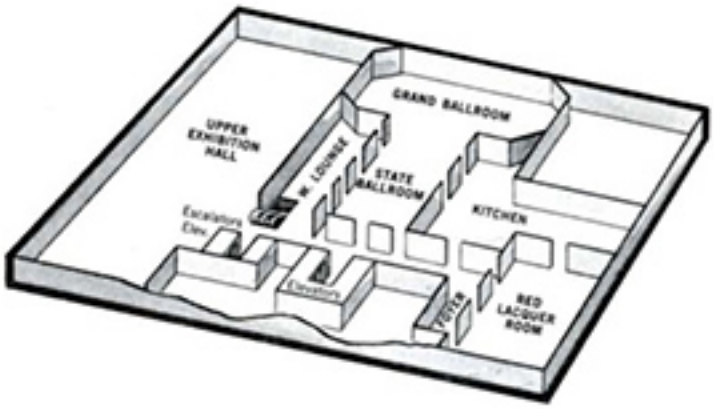
FLOOR PLANS

Third, Club, Fourth and Sixth Floors

The seven hundred (700) series rooms, meeting rooms for technical committees, Monday through Wednesday, are located on the seventh floor.

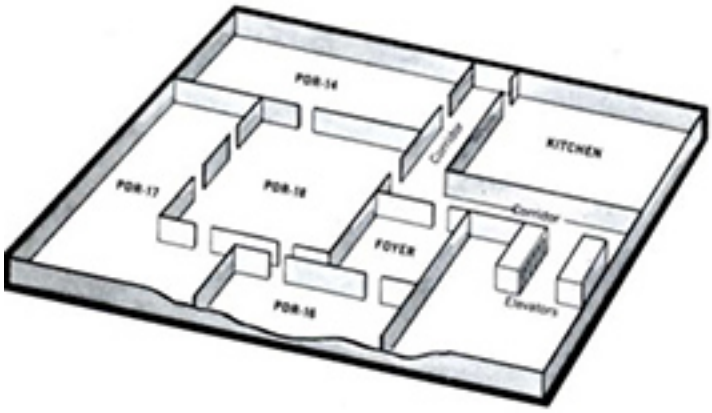


Third Floor

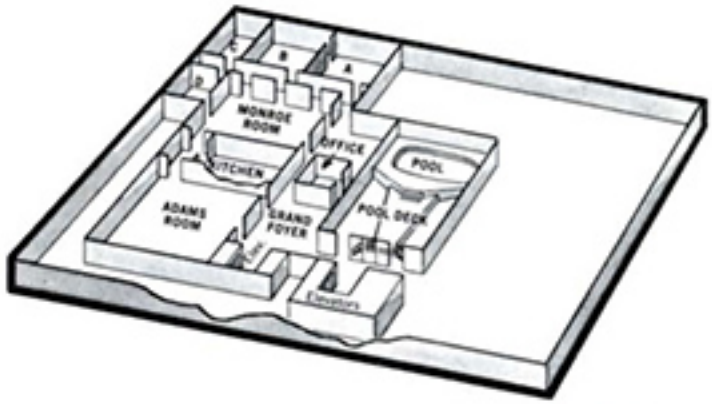


Fourth Floor

Technical-Educational exhibits will be on display in the Upper Exhibition Hall . . . Tuesday through Thursday.



Club Floor



Sixth Floor

WEDNESDAY, April 2 **9 a.m. to 12 noon**
. . . State Ballroom

MENZEL SYMPOSIUM ON HIGH PRESSURE STEAM CURING

(Sponsored jointly by ACI Committee 516 and the Autoclave Division Committee of the National Concrete Masonry Association . . . in honor of Carl A. Menzel)

SESSION CHAIRMAN: William H. Kuenning, chairman, ACI Committee 516, and principal engineer, Technical Services Department, Research and Develpoment Division, Portland Cement Association, Skokie, Illinois

The Work of Carl Menzel — Cedric Willson, vice-president of engineering, Texas Industries, Arlington, Texas

Some Physical and Chemical Aspects of High Pressure Steam Curing — George Verbeck, director of materials research; and L. E. Copeland, manager of cement research, Research and Development Division, Portland Cement Association, Skokie, Illinois

Laboratory Evaluation of Binders for Autoclaved Concrete Products — R. C. Valore, Jr., principal, Valore Research Associates, Ridgewood, New Jersey

Single Crystals of Calcium Silicate and Aluminate Hydrates and Their Aggregations in Autoclaved Cement Paste* — Yuri M. Butt, professor, Mendeleev Institute of Chemical Technology, Moscow, USSR

Rapid Autoclave Curing Cycles for Concrete Masonry Units — Thomas B. Redmond, manager, Research and Development, National Concrete Masonry Association, Arlington, Virginia

Influence of Superheated Steam on the Autoclave Cure Strengths of Cement and Concrete Compositions* — William V. Friedlaender, manager, Products Development, Universal Atlas Cement Division, U.S. Steel Corporation, Pittsburgh, Pennsylvania; and F. V. Camarda, senior research scientist, Cement Products, Research Laboratories, Universal Atlas Cement Division, U.S. Steel Corporation, Buffington, Indiana

*To be presented by title only. Paper to be printed in symposium volume.

2:00 p.m. to 5:00 p.m.

CHAIRMAN: Clyde Stewart, Autoclave Division Committee, NCMA, and vice-president, Illinois Brick Company, Chicago, Illinois

Highlights of the SECOND INTERNATIONAL SYMPOSIUM ON AUTOCLAVED CALIUM SILICATE BUILDING MATERIALS, Hannover, Germany — Cedric Willson, vice-president of engineering, Texas Industries, Arlington, Texas

Influence of Temperature Deformations and Pressure of Steam-Air Environment on Autoclave Hardening Concrete* — S. A. Mironov, L. A. Malinina, and S. Cheryachakina, Research Institute of Concrete and Reinforced Concrete, Moscow, USSR

A New Process for Calcium Silicate Brick Manufacture* — J. S. Wheeler, president, The Ontario Building Materials Group, Toronto, Ontario, Canada

Autoclaved Asbestos-Cement Products — Julie C. Yang, research associate, Corporate Research and Development, Johns-Manville Research and Engineering Center, Manville, New Jersey

Trends in the Design of Manufacturing Facilities for the Automated Production of Autoclaved Concrete Block — James C. Bailey, president; and E. C. Clay, engineer, Concrete Manufacturing Company, Atlanta, Georgia

Color in Autoclaved Products — C. James Gulde, vice-president and general manager, Concrete Masonry and Concrete Division, Crowe-Gulde Cement Company, Amarillo, Texas

*To be presented by title only. Paper to be printed in symposium volume.

THURSDAY, April 3

9:00 a.m. to 12:00 noon . . . . Grand Ballroom

RESEARCH ON PLAIN CONCRETE

These two research sessions on "Plain" and "Reinforced Concrete" are under the supervision of ACI Committee 115 — Current Research. Brief, confidential reports will be featured. As for all ACI research in progress sessions, request is made that the proceedings be regarded as confidential.

CHAIRMAN: J. H. Walker, secretary of ACI Committee 115, and vice-president, Research and Development Division, Portland Cement Association, Skokie, Illinois

Local Extensibility and Tensile Strength of Concrete or Rock and the Theorems of Limit Analysis — Wai-Fah Chen, Department of Civil Engineering, Lehigh University, Bethlehem, Pennsylvania

Winter Use of Epoxy Resin Concrete — C. L. Chapin; B. Kellam; and T. G. Clendenning, Ontario Hydro Electric Power Commission, Toronto, Ontario, Canada

Weathering and Durability of Highway Concrete — John Lemish; J. H. Elwell; and David Simon, Department of Earth Science, Iowa State University, Ames

Optimum Proportioning of Gap-Graded Air-Entrained Concrete — Shu-t'ien Li and P. S. Dravid, Civil Engineering Department, South Dakota School of Mines and Technology, Rapid City

An Alternative Approach to Determination of Tricalcium Aluminate in Portland Cement by X-Ray Diffraction — Katharine Mather, Petrography Section, Concrete Division, U.S. Army Engineer Waterways Experiment Station, Jackson, Mississippi

Strength of Plain Concrete under Combined Compressive Loadings — R. M. Zimmerman and L. L. Mills, Department of Civil Engineering, New Mexico State University, Las Cruces

Concrete Fracture — F. Moavenzadeh and T. W. Bremner, Department of Civil Engineering, Massachusetts Institute of Technology, Cambridge

Viscoelastic Study of Mortars — Joseph Nemec, Jr. and T. C. Brown, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal, Quebec, Canada

Study of Time-Dependent Deformations of Concrete — E. S. Perry and T. W. Kennedy, Department of Civil Engineering, University of Texas, Austin

Influence of Fine, Lightweight Aggregate Particle Shape on Concrete Mixing Water Requirement and Strength — Milton H. Wills, Jr., Martin-Marietta Cement & Lime Division, Baltimore, Maryland

THURSDAY, April 3

2:30 p.m. to 5:00 p.m. . . . . Grand Ballroom

RESEARCH ON REINFORCED CONCRETE

CHAIRMAN: Adrian Pauw, chairman of ACI Committee 115, and professor, College of Engineering, University of Missouri, Columbia

Stiffness Degradation of Reinforced Concrete Structures Subjected to Reversal Actions — Vitelmo Bertero; B. Bresler; and H. Liao, Department of Civil Engineering, University of California, Berkeley

Continuous Cylindrical Thin-Shell Concrete Model — Peter Darvall and Robert Mark, Department of Civil and Geological Engineering, Princeton University, Princeton, New Jersey

Development of Design Criteria for Continuius Composite Steel-Concrete Bridges — J. W. Fisher; R. G. Slutter; and J. H. Daniels, Department of Civil Engineering, Lehigh University, Bethlehem, Pennsylvania

Precast, Prestressed Concrete for Bridge Decks — M. J. Gutzwiller; R. H. Lee; and C. F. Scholer, Department of Civil Engineering; Purdue University, Lafayette, Indiana

Shear Stresses in Flat Plates near Columns — Paul E. Mast and W. Gene Corley, Design Research Section, Research and Development Division, Portland Cement Association, Skokie, Illinois

The Strength and Behavior of Spandrel Beams — J. O. Jirsa and J. L. Baumgartner, Department of Civil Engineering, Rice University, Houston, Texas

Investigation of Bond Characteristics of Prestressing Strand — M. F. Stocker, Department of Civil Engineering, University of Illinois, Urbana

A Comparative Study of the Rotational Capacity and Ductility of Reinforced Concrete Beams — E. F. Smith; W. A. Sussman; and G. R. Underhill, Department of Civil Engineering, West Virginia University, Morgantown

Shear Capacity of Beams with Web Openings — Norman F. Somes and John M. Hanson, Structural Research Section, Research and Development Division, Portland Cement Association, Skokie, Illinois

THURSDAY, April 3
12:15 p.m. AWARDS LUNCHEON . . .


Angeles


Carlson


Corbetta


Erickson


Huang


Kani


Korb


Mather


Siefried


Siess


Thornton

HONORARY MEMBERSHIP
RAYMOND C. REESE
BRYANT MATHER
CHESTER P. SIESS
PIER LUIGI NERVI
ROY W. CARLSON

Henry C. Turner Medal to . . . ROGER H. CORBETTA . . . "for pioneering in concrete construction and more recently for promoting and implementing coordination and cooperation among the various segments of the concrete industry."

Alfred E. Lindau Award to . . . E. E. RIPPSTEIN and J. F. SEIFRIED . . . "for outstanding service in improving and standardizing the detailing of reinforced concrete and particularly for their work on the preparation and updating of the ACI **Manual of Standard Practice for Detailing Reinforced Concrete Structures.**"

Henry L. Kennedy Award to . . . BRUCE E. FOSTER . . . "for significant contributions to ACI progress through long and forward-looking service on administrative committees, technical committees, and the Board of Direction."

Red Lacquer Room 12:15 p.m.


Ersoy


Farmer


Ferguson


Foster


May


Nervi


Reese


Rippstein

Charles S. Whitney Award to . . . ERIC L. ERICKSON and the BRIDGE DIVISION, U.S. BUREAU OF PUBLIC ROADS . . . "for distinguished contributions to the development of concrete bridge design and construction."

Wason Medal for Most Meritorious Paper to . . . the late G. N. J. KANI . . . for his paper, "How Safe are Our Large Reinforced Concrete Beams?", ACI JOURNAL, **Proceedings** V. 64, No. 3, March 1967, pp. 128-141."

Wason Medal for Research to . . . LARRY E. FARMER, PHIL M. FERGUSON, and UGUR ERSOY . . . to LARRY E. FARMER and PHIL M. FERGUSON for their paper, "T-Beams Under Combined Bending, Shear, and Torsion," ACI JOURNAL, **Proceedings** V. 64, No. 11, Nov. 1967, pp. 757-766; and . . . to UGUR ERSOY and PHIL M. FERGUSON for their paper, "Behavior and Strength of Concrete L-Beams Under Combined Torsion and Shear," ACI JOURNAL, **Proceedings** V. 64, No. 3, March 1967, pp. 128-141."

Construction Practice Award to . . . LIN Y. HUANG, N. P. ANGELES, HOWARD R. MAY, KEITH C. THORNTON, and JACK L. KORB . . . for their paper, "Design and Construction of North Terminal Building at the Detroit Metropolitan Airport," ACI JOURNAL, **Proceedings** V. 64, No. 8, August 1967, pp. 476-491."

* Recognition of Retiring Officers
* Report of Tellers and Introduction of New Officers
* Presentation of Memento to Retiring President

FRIDAY, April 4 **9 a.m. to 12:00 noon**

. . . Grand Ballroom

GENERAL SESSION

Welcome to Chicago — J. H. Walker, general chairman, 65th Annual ACI Convention, and vice-president, Research and Development Division, Portland Cement Association, Skokie, Illinois

Presidential Address—Graydon E. Burnett, President, ACI, and chief research scientist, U.S. Bureau of Reclamation, Denver, Colorado

ACI Bylaws Revision — presented by S. D. Burks, chairman, Board Committee on Bylaws, and Western Area manager, Construction Products Division, W. R. Grace & Company, San Leandro, California

Presentation of new standard "Recommended Practice for Concrete Floor and Slab Construction" — ACI Committee 302. Presentation by Lewis H. Tuthill, chairman, ACI Committee 302, and concrete engineer, California Department of Water Resources, Sacramento

Presentation of revised standard ACI 505-54 "Specification for the Design and Construction of Reinforced Concrete Chimneys" — ACI Committee 307. Presentation by Max Zar, chairman, ACI Committee 307, and partner and manager of Structural Department, Sargent and Lundy, Chicago, Illinois

BREAK

Teamwork in Concrete Technology — Harry N. Huntzicker, president, Portland Cement Association, Skokie, Illinois

Arbitration of Construction Contract Disputes — Robert Coulson, executive vice-president, American Arbitration Association, New York, New York

Report of Technical Activities Committee — Robert E. Philleo, chairman, TAC, and civil engineer, Office, Chief of Engineers, Department of the Army, Washington, D.C.

SYNOPSES OF STANDARDS TO BE PRESENTED

Presentation by ACI Committee 302

Quality of a concrete slab floor is highly dependent on achieving a hard and durable surface which is plane and free of cracks. The properties that the surface have are determined by the quality of the concreting operations. Furthermore, timing of these concreting operation and finishing techniques is critical. Otherwise, undesirable changes occur at the wearing surface; these may lead to soft or dusting surfaces, permeable concrete, cracking, and poor durability.

This recommended practice tells how to produce good quality floors and slabs for various classes of service, emphasizing such aspects of construction as site preparation, concreting materials, concrete mixture proportions, concreting, workmanship, and curing. Adequate supervision and inspection are required of all job operations including particularly those of finishing.

Presentation by ACI Committee 307

This report gives material, construction, and design requirements for reinforced cincrete chimneys. The report sets forth recommended loadings for the design of reinforced concrete chimneys and recommended methods for determining the stresses in the concrete and reinforcement resulting from these loadings. Charts containing curves to aid in the rapid solution of the specified formulas are included. While the method of analysis applies primarily to chimneys, it can be used for other hollow circular cross sections, with or without openings, where the shell thickness is small in proportion to the diameter.

Formulas are recommended for determining the temperature gradient through the concrete resulting from the difference in temperature of the gases inside the chimney and surrounding atmosphere, together with methods for determining the stresses in the concrete and reinforcement both vertically and circumferentially due to the temperature gradient through the concrete.

CONCURRENT SESSIONS

FRIDAY, April 4 — 2:00 p.m.

DESIGN AND ANALYSIS

. . . Red Lacquer Room

CHAIRMAN: Paul E. Mast, manager, Design Research Section, Research and Development Division, Portland Cement Association, Skokie, Illinois

A Proposed Design Procedure for Slender Columns (A 3-part presentation) — J. G. MacGregor, associate professor, Department of Civil and Municipal Engineering, University of Alberta, Edmonton, Alberta, Canada; J. E. Breen, associate professor, Department of Civil Engineering, University of Texas, Austin; and E. O. Pfrang, chief, Structures Section, Building Research Division, IAT, National Bureau of Standards, Washington, D.C.

BREAK

Compressive Strength of Slender Concrete Masonry Walls — Robert G. Mathey, assistant chief; and Felix Y. Yokel, engineer, Structures Section, Building Research Division, IAT, National Bureau of Standards, Washington, D.C.

Reinforced Concrete Design Computer Program STRUDL II (A 2-part presentation) — John M. Biggs, professor, Civil Engineering Department, Massachusetts Institute of Technology, Cambridge; and Harry N. Wenke, project engineer, Design Research Section, Research and Development Division, Portland Cement Association, Cambridge, Massachusetts

SESSIONS

5:00 p.m. — FRIDAY, April 4

CONSTRUCTION AND MATERIALS

. . . State Ballroom

CHAIRMAN: M. L. Burgener, director, Construction Methods Department, Research and Development Division, Portland Cement Association, Skokie, Illinois

Mass Housing in Concrete — Past and Future Efforts — John L. Hagel, research architect, Construction Research Section, Research and Development Division, Portland Cement Association, Skokie, Illinois

A Precast Concrete System for Office and Warehouse Facilities — Harry L. Scoggin, structural engineer/architect, Hinsdale, Illinois

BREAK

Concrete in Rapid Transit — Colonel Harold E. Nelson (USA Ret.), engineer of construction, Department of Public Works, City of Chicago, Chicago, Illinois

Polymer Concrete—A Potential Construction Material — J. T. Dikeou, supervisory physical scientist; J. E. Backstrom, head, Concrete Properties Section, Division of Research, Bureau of Reclamation, Denver, Colorado; L. E. Kukacka, chemical engineer; and M. Steinberg, supervisor, Radiation Processing Section, Radiation Division, Brookhaven National Laboratory, Upton, New York

To be presented by: Elmo C. Higginson, chief, Concrete and Structures Branch, Bureau of Reclamation, Denver, Colorado

Construction of the Epoxy-Bonded Reinforced Concrete Sydney, Australia, Opera House — 16mm/sound movie

TECHNICAL-EDUCATIONAL EXHIBITS

Be sure to visit each of these exhibits . . . Discover for yourself the latest materials, equipment, and services that are available to help you in your endeavor.

Acme Highway Products Corp., Buffalo, N.Y.

Adhesive Engineering Co., San Carlos, Calif.

Almar Specialty Machines, Inc., Maple, Ontario, Canada

Atlas Prestressing Corp., Van Nuys, Calif.

Bethlehem Steel Corp., Bethlehem, Pa.

Calcium Chloride Institute, Washington, D.C.

Conesco Midcontinent, Inc., Brookfield, Ill.

Decor-Cem, Inc., Rockford, Ill.

Erico Products, Inc., Cleveland, Ohio

Fly Ash Group

W. R. Grace & Co., Dewey & Almy Chem. Div., Cambridge, Mass.

Hilti, Inc., Stamford, Conn.

Hohmann & Barnard, Inc., Woodside, N.Y.

Illinois Slag & Ballast Co., Chicago, Ill.

Imoco-Gateway Corp., Chicago, Ill.

Inland-Ryerson Construction Products Co., Milwaukee, Wis.

Master Builders, Cleveland, Ohio

Molded Fiber Glass Concrete Forms Co., Ashtabula, Ohio

National Ash Association, Washington, D.C.

Nelson Stud Welding, Lorain, Ohio

The Prescon Corp., Corpus Christi, Texas

Protex Industries, Inc., Denver, Colo.

Sika Chemical Corp., Lyndhurst, N.J.

Soiltest, Inc., Evanston, Ill.

Sonoco Products Co., Hartsville, S.C.

Symons Mfg., Des Plaines, Ill.

TESTlab Corp., Chicago, Ill.

The Tube Slab Co., Hartford, Conn.

Spiro U.S.A., Inc., Park Ridge, Ill.

The Upco Co., Cleveland, Ohio

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NOTES