special events

educational-technical exhibits ... Tuesday through Thursday in the English Lounge and Stair Hall.

chapter forum ... Thursday, 7:00 p.m., in the Garden Room. An informal roundtable on chapter activities and organization.

"concrete mixer" social hour ... Wednesday, 6:30 to 8:00 p.m., in the Pennsylvania 2. Wear your badge.

awards luncheon and new officer installation ... Thursday, 12:15 p.m., in the Vernon Room. Good food and drink, an exciting speaker, and multi-media presentations combined into a new format. Get your ticket early!

publications display ... in the English Lounge. All the current ACI publications are there. Orders are taken at the Registration Desk in the Stair Hall.

Managua Earthquake — A Re-Evaluation of Our Design Philosophy ... Presented by Mark Fintel, Chairman, ACI Committee 442, and Director, Engineering Design Services Department, Portland Cement Association, Skokie, Illinois. Thursday, 6:00 p.m., in the Rutland Room.

breakfasts (by invitation only):

tuesday, march 6, 7:00 a.m.
breakfast for newly appointed chairmen of technical committees. Rowsley Room.

tuesday, march 6, 7:00 a.m.
breakfast for program participants in Productivity in Construction and the General Session. Bakewell Room.

wednesday, march 7, 7:00 a.m.
breakfast for program participants in Research on Plain and Reinforced Concrete; and Corrosion of Metals in Concrete. Bakewell Room.

thursday, march 8, 7:00 a.m.
breakfast for program participants in Durability of Concrete; Basic Mechanics of Shear Transfer; Evaluating the Strength of Concrete — Methods and Their Significance; and Abeles Symposium on Fatigue of Concrete. Bakewell Room.

friday, march 9, 7:00 a.m.
breakfast for program participants in Formwork for Concrete; Behavior and Design of Beams Subjected to Shear; and Polymers in Concrete. Bakewell Room.
BOARD OF DIRECTION

President
EDWARD COHEN

Vice-Presidents
ROBERT E. PHILLEO
CHESTER P. SIESS

Directors
HALVARD W. BIRKELAND
BORIS BRESLER
F. S. CLOUGH
ROGER DIAZ DE COSSIO
ELMO C. HIGGINSON
JACK R. JANNEY
MICHAEL A. LOMBARD
CHARLES J. PANKOW
FRANCIS J. PRINCIPE
JAMES E. STANNERS
JOSEPH H. WALKER
BERTOLD E. WEINBERG

Past Presidents
JOSEPH J. SHIDELER
S. D. BURKS
W. J. McCOY

Executive Director
WILLIAM A. MAPLES*

TECHNICAL ACTIVITIES COMMITTEE
(In charge of convention program and of technical publications)
JOHN F. McLAUGHLIN, Chairman
EDWARD COHEN, Ex Officio
SAMUEL J. HENRY, Secretary*
JOHN E. BREEN
T. Z. CHASTAIN
NOEL J. EVERARD
RUSSELL S. FLING
J. A. HANSON
PAUL KLEGER
HOWARD H. NEWLON, JR.
EDWARD O. PFANG
PETER SMITH

EDUCATIONAL ACTIVITIES COMMITTEE
(In charge of educational programs)
WILLIAM A. CORDON, Chairman
EDWARD COHEN, Ex Officio
GILBERT E. SEELEY, Secretary*
EMERY FARKAS
H. ALDRIDGE GILLESPIE
CLYDE E. KESLER
BOYD C. RINGO
DENNIS T. SMITH
GEORGE B. SOUTHWORTH

GENERAL ACTIVITIES COMMITTEE
(In charge of planning, coordination, communications, member services, and industry advancement programs)
S. D. BURKS, Chairman
EDWARD COHEN, Ex Officio
ROBERT E. WILDE, Secretary*
ARTHUR R. ANDERSON
HALVARD W. BIRKELAND
F. S. CLOUGH
ROGER H. CORBETTA
ROGER DIAZ DE COSSIO
CLYDE E. KESLER
MICHAEL A. LOMBARD
GEORGE H. PARIS
ROBERT E. PHILLEO
FRANCIS J. PRINCIPE
EMIL SCHMID
KENNETH D. SIMMONS
CHARLES W. WILSON

*American Concrete Institute
P. O. Box 4754
Detroit, Michigan 48219
Monday, March 5
9:00 a.m. - 10:00 p.m.
Technical, educational, and administrative committee meetings

Tuesday, March 6
9:00 a.m. - 10:00 p.m.
Technical, educational, and administrative committee meetings

1:00 p.m. - 6:00 p.m.
Exhibits Open English Lounge & Stair Hall

2:30 p.m. - 5:30 p.m.
Productivity in Construction (ACI New Jersey Chapter/Building Contractors Association of New Jersey) Rutland Room

7:00 p.m. - 10:30 p.m.
OSHA Symposium Pennsylvania 1

Wednesday, March 7
8:30 a.m. - 12:00 noon
General Session Pennsylvania 1

10:00 a.m. - 6:00 p.m.
Exhibits Open English Lounge & Stair Hall

2:30 p.m. - 5:30 p.m.
Research on Plain and Reinforced Concrete (Committee 115) Pennsylvania 3

2:30 p.m. - 5:30 p.m.
Corrosion of Metals in Concrete (Committee 222) Pennsylvania 1

2:30 p.m. - 5:30 p.m.
Technical and educational committee meetings

6:30 p.m. - 8:00 p.m.
Concrete Mixer Pennsylvania 2

Thursday, March 8
9:00 a.m. - 12:00 noon
Durability of Concrete (Committee 201) Pennsylvania 1

9:00 a.m. - 12:00 noon
Basic Mechanics of Shear Transfer (Committee 426) (first session) Rutland Room

9:00 a.m. - 10:00 p.m.
Technical and educational committee meetings

10:00 a.m. - 6:00 p.m.
Exhibits Open English Lounge & Stair Hall

12:15 p.m.
Awards Luncheon Vernon Room

2:30 p.m. - 5:30 p.m.
Abeles Symposium on Fatigue of Concrete (Committee 215) Rutland Room

2:30 p.m. - 5:30 p.m.
Evaluating the Strength of Concrete — Methods and Their Significance (Committee 214) Pennsylvania 1

6:00 p.m.
Exhibits Close

6:00 p.m.
Managua Earthquake — A Re-Evaluation of Our Design Philosophy

7:00 p.m. - 10:00 p.m.
Chapter Forum Garden

Friday, March 9
9:00 a.m. - 12:00 noon
Formwork for Concrete (Committee 347) Pennsylvania 1

9:00 a.m. - 12:00 noon
Polymers in Concrete (Committee 548) Pennsylvania 2

9:00 a.m. - 12:00 noon
Behavior and Design of Beams Subjected to Shear (Committee 426) (second session) Pennsylvania 3

12:00 noon
CONVENTION CLOSES
committee meetings

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

**Sunday, March 4**
9:00 a.m. to 12:00 noon

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Committee</td>
<td>Tower 1333</td>
</tr>
</tbody>
</table>

**Monday, March 5**
9:00 a.m. to 12:00 noon

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Activities Committee</td>
<td>Room 1344</td>
</tr>
<tr>
<td>Research and Development</td>
<td>Room A</td>
</tr>
<tr>
<td>Creep and Shrinkage in Concrete</td>
<td>Derbyshire</td>
</tr>
<tr>
<td>Concrete Floor Finishes</td>
<td>Rowleys</td>
</tr>
<tr>
<td>Measuring, Mixing, Transporting, and Placing Concrete</td>
<td>Navajo</td>
</tr>
<tr>
<td>Concrete Bins and Silos</td>
<td>Bakewell</td>
</tr>
<tr>
<td>Subcommittee H, Shear and Torsion</td>
<td>Pavilion</td>
</tr>
<tr>
<td>Lightweight Concrete Masonry</td>
<td>Room 1332</td>
</tr>
<tr>
<td>Precast Panels</td>
<td>West</td>
</tr>
<tr>
<td>ANSI Committee A10, Subcommittee 17, Concrete Construction Safety</td>
<td>Library</td>
</tr>
</tbody>
</table>

2:30 p.m. to 5:30 p.m.

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Activities Committee</td>
<td>Room 1344</td>
</tr>
<tr>
<td>Specifications Review Committee</td>
<td>Rowleys</td>
</tr>
<tr>
<td>Concrete Bins and Silos</td>
<td>Bakewell</td>
</tr>
<tr>
<td>Design of Reinforced Concrete Slabs</td>
<td>Viking Theatre</td>
</tr>
<tr>
<td>Prestressed Concrete</td>
<td>Room A</td>
</tr>
<tr>
<td>High-Strength Reinforcement in Concrete</td>
<td>Library</td>
</tr>
<tr>
<td>Joint Sealsants</td>
<td>Mandarin</td>
</tr>
<tr>
<td>Coatings for Concrete</td>
<td>Navajo</td>
</tr>
<tr>
<td>Accelerated Curing of Concrete at Atmospheric Pressure</td>
<td>Pavilion</td>
</tr>
<tr>
<td>Precast Panels</td>
<td>West</td>
</tr>
</tbody>
</table>

7:00 p.m. to 10:00 p.m.

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Committee on International Activities</td>
<td>Rowley</td>
</tr>
<tr>
<td>Cracking</td>
<td>Viking Theatre</td>
</tr>
<tr>
<td>Concrete Bins and Silos</td>
<td>Bakewell</td>
</tr>
<tr>
<td>Prestressed Concrete</td>
<td>Room A</td>
</tr>
<tr>
<td>Response of Buildings to Lateral Forces</td>
<td>Mandarin</td>
</tr>
<tr>
<td>Coatings for Concrete</td>
<td>Navajo</td>
</tr>
<tr>
<td>High Pressure Steam Curing</td>
<td>Garden</td>
</tr>
<tr>
<td>Concrete Masonry Structures</td>
<td>Library</td>
</tr>
<tr>
<td>Precast Panels</td>
<td>West</td>
</tr>
<tr>
<td>Fiber-Reinforced Concrete</td>
<td>Derbyshire</td>
</tr>
<tr>
<td>Refractory Concrete</td>
<td>Room 1332</td>
</tr>
</tbody>
</table>

Tuesday, March 6
9:00 a.m. to 12:00 noon

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Direction</td>
<td>Tower 1337</td>
</tr>
<tr>
<td>TAC ad hoc group on Slab Design Aids</td>
<td>Rowley</td>
</tr>
<tr>
<td>Proportioning Concrete Mixes</td>
<td>Derbyshire</td>
</tr>
<tr>
<td>Concrete Bins and Silos</td>
<td>Bakewell</td>
</tr>
<tr>
<td>Detailing Reinforced Concrete Structures</td>
<td>Garden</td>
</tr>
<tr>
<td>Construction of Concrete Pavements and Bases</td>
<td>Room 1344</td>
</tr>
<tr>
<td>Subcommittee F, Serviceability</td>
<td>Navajo</td>
</tr>
<tr>
<td>Subcommittee L, Prestressed Concrete</td>
<td>Tower 1337</td>
</tr>
<tr>
<td>Sanitary Engineering Structures</td>
<td>Room 134</td>
</tr>
<tr>
<td>Foundations for Equipment and Machinery</td>
<td>Library</td>
</tr>
<tr>
<td>Joints and Connections in Monolithic Concrete Structures</td>
<td>Pavilion</td>
</tr>
<tr>
<td>Design Practice</td>
<td>Room 1332</td>
</tr>
<tr>
<td>Models of Concrete Structures</td>
<td>Viking Theatre</td>
</tr>
<tr>
<td>Seminars and Workshops</td>
<td>Room A</td>
</tr>
</tbody>
</table>

2:30 p.m. to 5:30 p.m.

**PRODUCTIVITY IN CONSTRUCTION** (Sponsored by the ACI New Jersey Chapter and the Building Contractors Association of New Jersey) See Page 11

**Board of Direction**

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Computers</td>
<td>Tower 1337</td>
</tr>
<tr>
<td>Lightweight Aggregates and Lightweight Aggregate Concrete</td>
<td>West</td>
</tr>
<tr>
<td>Evaluation of Results of Tests Used to Determine the Strength of Concrete</td>
<td>Library</td>
</tr>
<tr>
<td>Construction of Concrete Pavements and Bases</td>
<td>Room 1344</td>
</tr>
<tr>
<td>Subcommittee A, General Building Code</td>
<td>Bakewell</td>
</tr>
<tr>
<td>Subcommittee E, Analysis and Strength Requirements</td>
<td>Rowleys</td>
</tr>
<tr>
<td>Subcommittee J, Slab Systems</td>
<td>Viking Theatre</td>
</tr>
<tr>
<td>Combined Footings and Pier Foundations</td>
<td>Derbyshire</td>
</tr>
<tr>
<td>Ultimate Strength Design Handbook</td>
<td>Tower 1333</td>
</tr>
<tr>
<td>Joints and Connections in Monolithic Concrete Structures</td>
<td>Pavilion</td>
</tr>
<tr>
<td>Deflection of Concrete Building Structures</td>
<td>Room 134</td>
</tr>
<tr>
<td>Torsion</td>
<td>Navajo</td>
</tr>
<tr>
<td>Seminars and Workshops</td>
<td>Room A</td>
</tr>
</tbody>
</table>

7:00 p.m. to 10:00 p.m.

**OSHA SYMPOSIUM AND PANEL DISCUSSION**
(Sponsored by ACI-TAC Task Force—Construction Standard for Buildings) See Page 12

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Computers</td>
<td>West</td>
</tr>
<tr>
<td>History of Concrete</td>
<td>Pavilion</td>
</tr>
<tr>
<td>Mass Concrete</td>
<td>Tower 1337</td>
</tr>
<tr>
<td>Lightweight Aggregates and Lightweight Aggregate Concrete</td>
<td>Garden</td>
</tr>
<tr>
<td>Fatigue of Concrete</td>
<td>Room 1344</td>
</tr>
<tr>
<td>Corrosion of Metals in Concrete</td>
<td>Room 134</td>
</tr>
<tr>
<td>Reinforced Concrete Chimneys</td>
<td>Rosley</td>
</tr>
<tr>
<td>Subcommittee D, Details and Development of Reinforcement</td>
<td>Room 1332</td>
</tr>
<tr>
<td>Subcommittee G, Flexure and Axial Loads</td>
<td>Room A</td>
</tr>
<tr>
<td>Subcommitee J, Footings</td>
<td>Viking Theatre</td>
</tr>
<tr>
<td>Ultimate Strength Design Handbook</td>
<td>Tower 1333</td>
</tr>
<tr>
<td>Torsion</td>
<td>Navajo</td>
</tr>
<tr>
<td>Precast Structural Concrete</td>
<td>Bakewell</td>
</tr>
<tr>
<td>Concrete Masonry Structures</td>
<td>Library</td>
</tr>
</tbody>
</table>
### Wednesday, March 7
8:30 a.m. to 12:00 noon

**GENERAL SESSION** See Page 14  Pennsylvania 1

#### 2:30 p.m. to 5:30 p.m.

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>117</td>
<td>Tolerances</td>
</tr>
<tr>
<td>212</td>
<td>Admixtures</td>
</tr>
<tr>
<td>216</td>
<td>Fire Resistance and Fire Protection of Structures</td>
</tr>
<tr>
<td>301</td>
<td>Specifications for Structural Concrete</td>
</tr>
<tr>
<td>303</td>
<td>Architectural Concrete</td>
</tr>
<tr>
<td>309</td>
<td>Consolidation of Concrete</td>
</tr>
<tr>
<td>318</td>
<td>Standard Building Code</td>
</tr>
<tr>
<td>325</td>
<td>Structural Design of Concrete Pavements for Highways and Airports</td>
</tr>
<tr>
<td>334</td>
<td>Concrete Shell Design and Construction</td>
</tr>
<tr>
<td>348</td>
<td>Structural Safety</td>
</tr>
<tr>
<td>548</td>
<td>Polymers in Concrete</td>
</tr>
<tr>
<td>E-704</td>
<td>Enchiridia — Building Code</td>
</tr>
</tbody>
</table>

### Thursday, March 8
9:00 a.m. to 12:00 noon

**DURABILITY OF CONCRETE** (Sponsored by ACI Committee 211) See Page 19  Pennsylvania 1

**BASIC MECHANICS OF SHEAR TRANSFER** (Sponsored by ACI Committee 426) (First Session) See Page 20  Pennsylvania 1

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>116</td>
<td>Nomenclature</td>
</tr>
<tr>
<td>222</td>
<td>Corrosion of Metals in Concrete</td>
</tr>
<tr>
<td>311</td>
<td>Inspection of Concrete</td>
</tr>
<tr>
<td>318</td>
<td>Standard Building Code</td>
</tr>
<tr>
<td>332</td>
<td>Residential Concrete Work</td>
</tr>
<tr>
<td>349</td>
<td>Criteria for Nuclear Containment Vessels</td>
</tr>
<tr>
<td>356</td>
<td>Industrialized Concrete Construction</td>
</tr>
<tr>
<td>437</td>
<td>Strength Evaluation of Existing Concrete Structures</td>
</tr>
<tr>
<td>506</td>
<td>Shotcreting</td>
</tr>
<tr>
<td>523</td>
<td>Insulating and Cellular Concretes</td>
</tr>
<tr>
<td>546</td>
<td>Repair of Concrete</td>
</tr>
<tr>
<td>E-701</td>
<td>Enchiridia — Materials</td>
</tr>
<tr>
<td>E-702</td>
<td>Enchiridia — Structural Design</td>
</tr>
</tbody>
</table>

#### 2:30 p.m. to 5:30 p.m.

**ABELES SYMPOSIUM ON FATIGUE OF CONCRETE** (Sponsored by ACI Committee 215) See Page 21  Pennsylvania 1

**EVALUATING THE STRENGTH OF CONCRETE — METHODS AND THEIR SIGNIFICANCE** (Sponsored by ACI Committee 214) See Page 22  Pennsylvania 1

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Durability of Concrete</td>
</tr>
<tr>
<td>223</td>
<td>Expansive Cement Concretes</td>
</tr>
<tr>
<td>318</td>
<td>Standard Building Code</td>
</tr>
<tr>
<td>347</td>
<td>Formwork for Concrete</td>
</tr>
<tr>
<td>356</td>
<td>Industrialized Concrete Construction</td>
</tr>
<tr>
<td>408</td>
<td>Bond Stress</td>
</tr>
<tr>
<td>523</td>
<td>Insulating and Cellular Concretes</td>
</tr>
<tr>
<td>546</td>
<td>Repair of Concrete</td>
</tr>
<tr>
<td>E-703</td>
<td>Enchiridia — Construction</td>
</tr>
</tbody>
</table>

#### 6:00 p.m.

**MANAGUA EARTHQUAKE — A RE-EVALUATION OF OUR DESIGN PHILOSOPHY**  Rutland

#### 7:00 p.m. to 10:00 p.m.

**CHAPTER FORUM**

<table>
<thead>
<tr>
<th>Committee</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Durability of Concrete</td>
</tr>
<tr>
<td>223</td>
<td>Expansive Cement Concretes</td>
</tr>
<tr>
<td>318</td>
<td>Standard Building Code</td>
</tr>
<tr>
<td>345</td>
<td>Concrete Bridge Decks</td>
</tr>
<tr>
<td>347</td>
<td>Formwork for Concrete</td>
</tr>
<tr>
<td>426</td>
<td>Shear and Diagonal Tension</td>
</tr>
<tr>
<td>443</td>
<td>Concrete Bridge Design</td>
</tr>
<tr>
<td>503</td>
<td>Adhesives for Concrete</td>
</tr>
</tbody>
</table>
Friday, March 9 9:00 a.m. to 12:00 noon

FORMWORK FOR CONCRETE (Sponsored by ACI Committee 347) See Page 23 Pennsylvania 1

POLYMERS IN CONCRETE (Sponsored by ACI Committee 548) See Page 24 Pennsylvania 2

BEHAVIOR AND DESIGN OF BEAMS SUBJECTED TO SHEAR (Sponsored by ACI Committee 426) (Second Session) See Page 25 Pennsylvania 3

committee
333 Composite Construction

meeting room
Library

FLOOR PLANS

FLOOR PLANS - Haddon Hall
FIRST FLOOR TOWER

TOWER FLOOR

FIFTEENTH FLOOR
NAVAGO ROOM  PAVILION ROOM

LOUNGE FLOOR - ACI Registration

LOBBY FLOOR
LIBRARY ROOM
TUESDAY, MARCH 6, 2:30 p.m.
productivity in construction
exploration of methods to increase productivity in construction by labor, contractors, and designers

Rutland

sponsored by ACI New Jersey Chapter and the Building Contractors Association of New Jersey

PANEL DISCUSSION

Moderator: Paul J. Brienza, managing director, Building Contractors Association of New Jersey, Springfield, New Jersey

Panelists:
- Jack Joyce, chairman, Mechanical Industry Council and president, John E. Joyce Company, Newark, New Jersey
- William J. Bulman, executive director, Mechanical Contractors Association of New Jersey, East Orange, New Jersey
- Edward Kolbie Jr., AIA, president, New Jersey Society of Architects and Thomas, Kolby, Thomas & Pompni, Cherry Hill, New Jersey
- Raleigh Racioppi, executive board member, United Brotherhood of Carpenters and Joiners of America, Washington, D.C.
- Michael Pedicini, president, State Bricklayers Conference, Bricklayers Masons & Plasterers International Union of America, Summit, New Jersey
- John A. Vermeulen, director of industrial relations, Building Contractors Association of New Jersey, Springfield, New Jersey
- George P. Ferrigni, director of engineering and construction division, American Cyanamid Corporation, Wayne, New Jersey

TUESDAY, MARCH 6, 7:00 p.m.

osha symposium and panel discussion—

the Williams-Steiger Occupational Safety and Health Act of 1970 —
safety and health regulations for construction

Pennsylvania 1

sponsored by ACI-TAC Task Force Construction Standard for Buildings

Session Chairman: J. A. Hanson, director of concrete research, Wiss, Janney, Elstner and Associates, Northbrook, Illinois

Introductory Remarks
Edward Cohen, president, ACI, and partner, Ammann and Whitney, Consulting Engineers, New York, New York

OSHA — Its Purpose, Meaning, Implementation and Enforcement
Alfred Barden, regional administrator, Region II, Occupational Safety and Health Administration, New York, New York

PANEL DISCUSSION: OSHA — What It Means to and How It Affects the Designer, the Constructor, Labor, the Owner, and the Insurance Carrier

Discussion Moderator: Clifford Gordon, safety director, Division of Design and Construction, City of New York, Office of School Buildings, Long Island City, New York

Designer
Vincent J. De Simone, partner, De Simone and Chaplin, Consulting Engineers, New York, New York

Constructor
Arthur L. Schmuhl, director, Safety Division, Associated General Contractors of America, Washington, D.C.

Labor
Melvin H. Roots, executive vice-president, Operative Plasterers and Cement Masons International Association, Washington, D.C.

Owner — City
Milton Muscian, administrator, Municipal Service Administration, New York, New York

Insurance Carrier
Robert F. Ellena, vice-president, Loss Prevention, Liberty Mutual Insurance Company, Boston, Massachusetts

Federal
Francis V. Laruffa, regional solicitor, Region II, Occupational Safety and Health Administration, New York, New York

State
James Conlon, deputy director of engineering and safety, New Jersey Department of Labor and Industry, Trenton, New Jersey

Question Moderator: John F. MacLaughlin, chairman, ACI Technical Activities Committee, and head, School of Civil Engineering, Purdue University, West Lafayette, Indiana

Closing Remarks
Edward Cohen, President, ACI
WEDNESDAY, MARCH 7, 8:30 a.m.

General Session

Pennsylvania 1

Session Chairman: Louis Hajdu, president, ACI New Jersey Chapter, and president, Louis Hajdu, Inc., Alpha, New Jersey

Presidential Address
Edward Cohen, president, ACI, and partner, Ammann & Whitney, Consulting Engineers, New York, New York

Presentation of Delmar L. Bloem Distinguished Service Awards

Introduction
Robert E. Phillee, vice-president, ACI, and chief, Concrete Branch, Office, Chief of Engineers, Washington, D.C.

Presentation of awards by Mrs. Delmar L. Bloem

Awardees

M. DANIEL VANDERBILT

First Chairman of ACI Committee 104, Preparation of Notation for Concrete, from March 1968 through March 1972; responsible for successfully guiding the creation of a standard which brings order to the systems of concrete notation and for the remarkable degree of international cooperation.

EDWARD COHEN

Chairman of ACI Committee 318, Standard Building Code, from March 1964 through March 1971; responsible for leading the eight-year task of revision of ACI 318-63, producing 318-71. Mr. Cohen also served as the first Chairman of Committee 340, Ultimate Strength Design Handbook, from 1958 to 1967 and co-authored with Noel Everard the interim publication, "Ultimate Strength Design of Reinforced Concrete Columns," SP-7.

GEORGE F. LEYH

Secretary of ACI Committee 318, Standard Building Code, from 1965 through March 1971 when he became chairman; responsible for much of the organizational and administrative work and rewriting involved in the revision of ACI 318-63 to produce 318-71. Mr. Leyh also served as the first Chairman of Committee 545, Concrete Railroad Ties from 1967 to 1971.

PROGRAM SESSION:

New Jersey 1972 Concrete Award Program Winner
Featuring the design and construction of the Schering Corporation Office Building. The awards program is sponsored jointly by the ACI New Jersey Chapter and the New Jersey Ready Mixed Concrete Association.

Introduction
Ellis Vieser, secretary-treasurer and past president, ACI New Jersey Chapter, and general manager, South Jersey Concrete Pipe Company, Inc., Hammonton, New Jersey

Speakers
Werner C. Sturm, Severud-Perrone-Sturm-Bandel, New York, New York
Michael Keselica Jr., Skidmore, Owings & Merrill, New York, New York

Concrete Structures in North Sea Oil Fields
Eivind Hagstedt, director, Engineering Development Department, Research and Development Division, Portland Cement Association, Skokie, Illinois

BUSINESS SESSION:

Presiding Officer: Edward Cohen, ACI President
Revisions to "Building Code Requirements for Reinforced Concrete (ACI 318-71)"
George F. Leyh, chairman, ACI Committee 318, and associate technical director, Concrete Reinforcing Steel Institute, Chicago, Illinois

Proposal to Revise the American Concrete Institute Bylaws
WEDNESDAY, MARCH 7, 2:30 p.m.

research in progress on plain and reinforced concrete

(Brief and confidential unpublished reports)

Pennsylvania 3

sponsored by ACI Committee 115

Session Chairman: Joseph H. Walker, chairman, Committee 115, and vice-president for research and development, Portland Cement Association, Skokie, Illinois

Secretary: Herbert K. Cook, secretary, Committee 115, and vice-president of engineering, Master Builders, Cleveland, Ohio

Full Scale Testing of a Prestressed Concrete Bridge
Robert M. Barnoff, professor of civil engineering, The Pennsylvania State University, University Park, Pennsylvania

Further Studies of Double-Punch Test for Tensile Strength of Concrete
T. A. Colgrove, senior student, Department of Civil Engineering, Lafayette College, Easton, Pennsylvania; and W. F. Chen, associate professor, Department of Civil Engineering, Lehigh University, Bethlehem, Pennsylvania

Polymer-Cement Concrete for Quality Improvement
Edward G. Navy, professor of civil engineering; John A. Sauer, professor of materials science; and P. F. Sun, graduate assistant, Department of Civil and Environmental Engineering, Rutgers University, New Brunswick, New Jersey

Studies of the Fracture of Concrete Using High-Speed Photography
Jitrenda K. Bhargava, doctor, Institute of Structural Engineering and Bridge Building, The Royal Institute of Technology, Stockholm, Sweden

Structural Behavior of a Curved Concrete Box Girder Bridge Model
A. C. Scordelis, J. G. Bouwkamp, professors of civil engineering; and P. K. Larsen, assistant research engineer, Department of Civil Engineering, University of California, Berkeley, California

Ultimate Strength in Inclined Cracking of Reinforced Concrete Thin Wall Ribbed Panels
Z. A. Zielinski, research supervisor and visiting professor, and Alfred Abdoleze, research assistant and graduate student, Sir George Williams University, Montreal, Quebec, Canada

Nonmetallic Coatings for Concrete Reinforcing Bars
Robert G. Mathey; James R. Clifton; and Hugh F. Beeghly, Materials and Composites Section, Structures, Materials and Life Safety Division, Center for Building Technology, IAT, National Bureau of Standards, Washington, D.C.

Stiffness and Ultimate Load-Carrying Capacity of Reinforced and Prestressed Concrete Beams Loaded in Combined Torsion, Bending, and Shear
Lennart G. Elfgren, research associate, Chalmers University of Technology, Gothenburg, Sweden, and visiting post graduate research engineer, Division of Structural Engineering and Structural Mechanics, University of California, Berkeley, California; Inge Karlsson, research associate; Krister Cederwall, associate professor; and Anders Losberg, professor and chairman, Division of Concrete Structures, Chalmers University of Technology, Gothenburg, Sweden

Inelastic Response of Reinforced Concrete Beams
John M. Kulicki, instructor; and Celal Kostem, associate professor, Civil Engineering, Fritz Engineering Laboratory, Lehigh University, Bethlehem, Pennsylvania

Distribution of Negative Moment Reinforcement in Reinforced Concrete T and Box Girder Bridge Deck Slabs
William D. Shrader, professor of civil engineering, Division of Engineering Mechanics and Civil Engineering, Indiana Institute of Technology, Fort Wayne, Indiana; and Hans Gesund, professor of structural engineering, University of Kentucky, Lexington, Kentucky

A. J. BOASE AWARD OF THE REINFORCED CONCRETE RESEARCH COUNCIL

Douglas McHenry has been selected by the Reinforced Concrete Research Council to receive the 1973 Arthur J. Boase Award "... for his outstanding leadership in reinforced concrete research over more than 30 years, for his extensive contributions to technical committees of ASCE and ACI, and for significantly advancing the science and art of structural concrete design."
WEDNESDAY, MARCH 7, 2:30 p.m.
corrosion of metals in concrete

sponsored by ACI Committee 222

Session Chairman: Leonard Pepper, chairman, Committee 222, and supervisory research chemist, Concrete Division, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi

Corrosion Mechanism
George J. Verbeck, director, Materials Research, Research and Development Division, Portland Cement Association, Skokie, Illinois

Use of Coatings on Steel Embedded in Concrete
Theodore E. Backstrom, physical scientist, U.S. Bureau of Reclamation, Denver, Colorado; presentation by James R. Graham, chief, Concrete and Structural Branch, U.S. Bureau of Reclamation, Denver, Colorado

Corrosion Inhibitors for Reinforced Concrete
Donald F. Griffin, civil engineer, U.S. Naval Civil Engineering Laboratory, Port Hueneme, California

Cathodic Protection of Steel in Concrete
Ronald C. Robinson, senior engineer, Research and Development, Amcron, Monterey Park, California

Corrosion of Metals in Concrete — Needed Research

THURSDAY, MARCH 8, 9:00 a.m.
durability of concrete

sponsored by ACI Committee 201

Session Chairman: Emery Farkas, general manager of rock processing chemicals, W. R. Grace & Company, Cambridge, Massachusetts

Moisture Distribution in Concrete Bridge Decks and Pavements
Denis C. Pu, graduate student; Philip D. Cady, associate professor of civil engineering; and Roger E. Carrier, instructor of civil engineering, Pennsylvania State University, University Park, Pennsylvania

Sulfate Attack on Concrete Structures
Thomas J. Reading, materials engineer, U.S. Army Corps of Engineers, Missouri River Division, Omaha, Nebraska

Influence of Hot Saline and Distilled Waters on Concrete
James E. Backstrom, director, Concrete Properties Section (retired); and James Graham, chief, Concrete and Structural Branch, U.S. Bureau of Reclamation, Denver, Colorado

Practical Methods of Ensuring Durability of Prestressed Concrete in Ocean Structures
Ben C. Gerwick, Jr., president, Ben C. Gerwick Company, Division of J. H. Pomeroy and Company, Inc., San Francisco, California

Sulfate Resistance of Expansive Cement Concretes
Milos Polivka, professor of civil engineering; and P. K. Mehta, professor, Department of Civil Engineering, University of California, Berkeley, California

Control of Steel Corrosion in Concrete Sea Structures
Odd E. Gjørv, professor, Department of Civil Engineering, Division of Building Material, University of Trondheim, Trondheim, Norway
THURSDAY, MARCH 8, 9:00 a.m.

basic mechanics of shear transfer

Pennsylvania 3

sponsored by ACI-ASCE Committee 426

A second session of the Shear Symposium will be held here tomorrow morning; a third session will be held at the 1973 ACI Fall Convention in Ottawa in October.

Session Chairman: Nat Wetzel Krahl, associate professor of structural engineering, Rice University, Houston, Texas

Overview of the 1973 Shear Committee Report
J. G. MacGregor, chairman, ACI-ASCE Committee 426, professor of civil engineering, University of Alberta, Edmonton, Alberta, Canada

Shear Transfer in Members Having Reinforcement at an Angle to the Shear Plane
Alan H. Mattock, professor of civil engineering, University of Washington, Seattle, Washington

The Fundamental Behavior of Reinforced Concrete Beams in Bending and Shear
Howard P. J. Taylor, research engineer, Design Research Department, Cement and Concrete Association, Wexham Springs, Bucks, England

Influence of Dowel Forces and Aggregate Interlock on Stirrup Load Capacity
R. N. Swamy, senior lecturer; and A. D. Andriopoulos, graduate student, Department of Civil and Structural Engineering, University of Sheffield, Sheffield, England

Finite Element Study of Reinforced Concrete Beams with Diagonal Tension Cracks
Alexander C. Scordelis, professor of civil engineering, University of California, Berkeley, California; D. Ngo, engineer, Central Pacific Development and Investment Corporation, Guam; and H. A. Franklin, engineer, Bechtel Corporation, San Francisco, California

A Finite Element Analysis of Shear Strength of Reinforced Concrete Beams
M. Saeed Mirza, associate professor, Department of Civil Engineering and Applied Mechanics, McGill University, Montreal; and Jules Housse, associate professor, Department of Civil Engineering, Ecole Polytechnique, Montreal, Quebec, Canada

THURSDAY, MARCH 8, 2:30 p.m.

abeles symposium on fatigue of concrete

Rutland

sponsored by ACI Committee 215

Session Chairman: John D. Antrim, professor of engineering, Engineering Technology Programs, Pennsylvania State University, Middletown, Pennsylvania

PART I

Guide for Design of Concrete Structures Subjected to Fatigue Loading

Beams
Carl E. Ekberg, Jr., professor and head, Department of Civil Engineering, Iowa State University, Ames, Iowa

Concrete Pavements
Craig A. Ballinger, structural research engineer, Structures and Applied Mechanics Division, Federal Highway Administration, Bureau of Public Roads, Fairbanks Highway Research Station, Washington, D.C.

PART II

Recent Experimental Investigations

Fatigue Strength of Slabs Reinforced With Wire Fabric
Neil M. Hawkins, professor of civil engineering, University of Washington, Seattle, Washington

Contribution to the Fatigue Strength of Reinforced Concrete
Stefan Soretz, engineer, Tor-Isteg Steel Corporation, Vienna, Austria; presentation by P. K. Mohanty, managing director, Indian Branch, Tor-Isteg Steel Corporation, Luxemburg

Fatigue of Reinforcement in Beams With Limited Prestress
E. W. Bennett, reader in civil engineering, Department of Civil Engineering, University of Leeds, Leeds, England
THURSDAY, MARCH 8, 2:30 p.m.
evaluting the strength of concrete—
methods and their significance

sponsored by ACI Committee 214

Session Chairman: J. Derle Thorpe, assistant professor of civil engineering, Department of Civil and Environmental Engineering, Utah State University, Logan, Utah

Non-Destructive Methods for Testing Concrete — A Global Review
V. M. Malhotra, materials engineer, Construction Materials Section, Mineral Processing Division, Mines Branch, Department of Energy, Mines, and Resources, Ottawa, Ontario, Canada

The Evaluation of Pull-Out Tests to Determine the Strength of In-Situ Concrete
Owen Richards, minerals consultant, Chevy Chase, Maryland; and V. M. Malhotra, materials engineer, Construction Materials Section, Mineral Processing Division, Mines Branch, Department of Energy, Mines, and Resources, Ottawa, Ontario, Canada

A Non-Destructive Method of Concrete Strength Evaluation
Earle L. Page, senior materials engineer, Law Engineering Testing Company, Charlotte, North Carolina; and Richard A. Muenow, director of construction services, Law Engineering Testing Company, Atlanta, Georgia

Standard and Non-Destructive Test Methods Compared
L. E. Rodway, materials engineer, R. M. Hardy and Associates Ltd., Calgary; and C. E. Rodier, materials engineer, City of Calgary, Alberta, Canada

Monte Carlo Simulation of Statistical Parameters of Concrete Strength Data
Kenneth R. Lauer, professor of civil engineering, University of Notre Dame, Notre Dame, Indiana; and Brian Siqueira, constructor estimator, Wright Construction Corporation, Elkhart, Indiana

FRIDAY, MARCH 9, 9:00 a.m.
formwork for concrete

sponsored by ACI Committee 347

Session Chairman: David E. Fleming, consulting engineer, David E. Fleming Company, Denver, Colorado

Practical Considerations in the Provision of Formwork for Structural Concrete
J. G. Richardson, lecturer, Construction Department, Cement and Concrete Association, Fulmer Grange, Slough, Bucks, England

Casting and Forming Details for Segmental Bridges
Thomas M. Gallaway, senior design engineer, Advance Construction Equipment, Inc., New Braunfels, Texas

Plywood Honeycomb Sandwich Panel Forms
Ronald Hallam, manager, engineering, Kornreich Products, Inc., San Marcos, California; and Jack Holt, chief engineer, Burke Concrete Accessories, Inc., Burlingame, California

Form and Shore Requirements for Multi-Story Flat Slab Type Buildings
Noel J. Gardner, associate professor, Department of Civil Engineering, University of Ottawa, Ottawa; and R. K. Agarwal, engineer, Ottawa-Carleton Regional Municipality, Ottawa, Ontario, Canada

Formwork for Some Unusual Buildings
Jacob Feld, consulting engineer, Feld, Kaminetzky and Cohen, Consulting Engineers, New York, New York
FRIDAY, MARCH 9, 9:00 a.m.

dynamics in concrete

sponsored by ACI Committee 548

Session Cochairmen: James T. Dikeou, senior research scientist, Division of General Research, U.S. Bureau of Reclamation, Engineering and Research Center, Denver, Colorado; and Lawrence E. Kukacka, project engineer, Radiation Division, Department of Applied Science, Brookhaven National Laboratory, Upton, New York

Polymer-Impregnated Concrete as a Composite Material
Allan Auskern, Radiation Division, Brookhaven National Laboratory, Upton, New York

Development of Polymer-Impregnated Concrete as a Construction Material for Engineering Projects
James T. Dikeou, senior research scientist, Division of General Research, U.S. Bureau of Reclamation; and Glenn W. DePuy, research physical scientist, Engineering and Research Center, Denver, Colorado

Polymer-Impregnated Concrete Surface Treatments for Highway Bridge Decks
James T. Houston, assistant professor of civil engineering; David W. Fowler, professor, Architect-Engineering Department; and Donald R. Paul, associate professor of chemical engineering, College of Engineering, The University of Texas at Austin, Austin, Texas

Radiographic Studies of the Structure of Polymer-Impregnated Concrete
Jitendra K. Bhanvada, doctor, Institution of Structural Engineering and Bridge Building, The Royal Institute of Technology, Stockholm, Sweden

Polymer-Concrete Reinforced Concrete Composite Beams
D. J. Naas and R. Howdyshell, U.S. Army Construction Engineering Research Laboratory, Champaign, Illinois; and James L. Lott, associate professor, Civil Engineering Department, Illinois Institute of Technology, Chicago, Illinois

FRIDAY, MARCH 9, 9:00 a.m.

behavior and design of beams subjected to shear

sponsored by ACI-ASCE Committee 426

A third session of the Shear Symposium will be held at the 1973 ACI Fall Convention in Ottawa in October.

Session Chairman: J. G. MacGregor, chairman, ACI-ASCE Committee 426, and professor of civil engineering, University of Alberta, Edmonton, Alberta, Canada

Dynamic Shear Strength of Reinforced Concrete Beams
R. H. Seabold, senior project engineer, Structures Division, U.S. Naval Civil Engineering Laboratory, Port Hueneme, California

Effects of Reversals of High Shears on the Design of Flexural Reinforced Concrete Members
Vitelto V. Bertotro; and E. P. Popov, professors of civil engineering, University of California, Berkeley, California

Continuous Joists With Circular Web Openings
N. F. Somes, chief, Structures Section, Center for Building Technology, IAT, U.S. Department of Commerce, National Bureau of Standards, Gaithersburg, Maryland; and W. Gene Corley, manager, Structural Development Section, Portland Cement Association, Skokie, Illinois

Prestressed Concrete T-Beams With Large Web Openings
J. Warwaruk, professor of civil engineering, University of Alberta, Edmonton, Alberta, Canada

Shear Strength of Prestressed and Reinforced Concrete T-Beams

The Method of Design of Inclined Sections in Reinforced Concrete Under the Action of Bending Moments and Shear Forces
A. S. Zalesov, senior scientific worker, NIIZhB Gosstroy USSR, Moscow, USSR

Comparison and Summary of Shear Symposium Papers
Peter Gergely, associate professor of structural engineering, Cornell University, Ithaca, New York

24

25
exhibition
english lounge and stair hall

hours:
Tuesday : 1:00 p.m. to 6:00 p.m.
Wednesday : 10:00 a.m. to 6:00 p.m.
Thursday : 10:00 a.m. to 6:00 p.m.

exhibitors:

Adhesive Engineering Company — Structural concrete bonding process
epoxy injection.

Chemically Prestressed Concrete Corporation — Expansive cement
manufactured to reduce drying shrinkage in concrete.

Effo Systems, Inc. — Concrete form ties.

Erico Products, Inc. — Rebar Splices.

Fegles-Power Service Corporation — Slip form concrete construction.

Intrusion-Prepakt, Inc. — Erosion control revetments, pile jackets, founda-
tion stabilization by grouting methods, concrete, cast-in-place
piles.

Master Builders — Pozzolith polymer-type admixture for improving
pumped, prestressed, precast, lightweight, etc., concrete.

National Ash Association, Inc. — Use of power plant ash in concrete
and concrete products.

Occupational Safety and Health Administration — Information on
OSHA.

Sika Chemical Corporation — Admixtures, epoxy coatings, waterproof
membranes, joint sealants for concrete construction/mainte-
nance/restoration.

Stelmo, Inc. — Steel formwork, concrete production plant, tunnelling
equipment.

Stricon Products Limited — Splicers and stress splicers.

Teka Construction Equipment Corporation — Concrete mixer.

Vibco, Inc. — Air and electric vibrators for concrete placement and
densification, bins, screens, chutes, carshakers, etc.

Watson Bowman Associates Inc. — Expansion joint sealing systems.

Charles R. Watts Company — Concrete air meters.

THURSDAY, MARCH 8, 12:15 p.m.
awards luncheon
vernon room

awards program featured speaker
New Uses for Concrete in the Consolidation and
Reconstitution of Historic Structures

James Marston Fitch, founder and director of the
graduate program of Restoration and Preservation of
Historic Architecture at Columbia University, author
of American Building

awards program

Honorary Memberships:
Clyde E. Kesler
Anton Tedesko

Henry C. Turner Medal:
Bryant Mather

Alfred E. Lindau Plaque:
Fazlur R. Khan

Henry L. Kennedy Award:
Richard C. Mielenz

Charles S. Whitney Medal:
U.S. Bureau of Reclamation,
Engineering Laboratory

Arthur R. Anderson Medal:
Adam M. Neville

Roger H. Corbetta Award:
Arthur R. Anderson

Wason Medal for Most Meritorious Paper:
David R. Lankard
Donald L. Birkimer
F. Frederick Fondriest
M. Jack Snyder

Wason Medal for Materials Research:
K. W. Nasser
R. P. Lohtia

Raymond C. Reese Structural Research Award:
Alexander Placas
Paul E. Regan

Department of the Army Certificate of
Appreciation for Patriotic Civilian Service:
American Concrete Institute

Recognition of Retiring Officers
Report of Tellers
Introduction of New Officers
New President’s Address
Presentation of Memento to Retiring President
ladies program

ladies hospitality suite: Solarium

MONDAY
9:00 a.m. to 11:00 a.m.
   Ladies Registration
11:00 a.m. to 3:00 p.m.
   Renault Winery — Luncheon and tour, wine tasting

TUESDAY
9:00 a.m. to 11:00 a.m.
   Ladies Registration
11:00 a.m. to 2:00 p.m.
   Luncheon and Fashion Show

WEDNESDAY
9:00 a.m. to 11:00 a.m.
   Ladies Registration
11:00 a.m. to 3:30 p.m.
   Smithville — Luncheon and shopping tour

THURSDAY
9:00 a.m. to 12:00 noon
   Ladies Hospitality
12:00 noon
   Awards Luncheon

future conventions

1973 — October 6 - 12
   Chateau Laurier
   Ottawa, Ontario, Canada

1974 — March 30 - April 5
   Sheraton-Palace Hotel
   San Francisco, California

1974 — October 26 - November 1
   Sheraton-Biltmore Hotel
   Atlanta, Georgia

1975 — April 6 - 11
   Sheraton Boston Hotel
   Boston, Massachusetts

1975 — November 1 - 7
   The Bayshore Inn
   Vancouver, British Columbia, Canada

ATLANTIC CITY CONVENTION COMMITTEE

Chairman
Jack W. Weber
Master Builders

Secretary
Raymond C. Heun, P.E.
New York Concrete Construction Institute

Finances
Raymond A. Ayres
Nytralite Division
New York Trap Rock Corporation

Publicity
George L. Breen
Sika Chemical Corporation

Student Activities
Dr. Edward G. Nawy
Rutgers University

Technical Activities
Eugene M. Smith, P. E.
Consulting Engineer

Arrangements
Vincent J. Carpentier
Capitol Concrete Company

Ex Officio
Louis Hajdu
Louis Hajdu, Inc.

The officers, staff, and members of ACI would like to thank the Local Committee, the Hostesses, and the Chapter for their part in the 1973 Annual Convention.
QUIETNESS IS THE MASTER OF THE DEED

(Tau)