

Status of PCI's Daniel P. Jenny Research Fellowships

Academic Year 1986-'87

- "Minimum Prestress Level for Prestressed Concrete Columns," University of Texas at Arlington, Arlington, Texas — The research project is complete, and a thesis has been presented. A summary paper will be submitted for possible publication in the PCI JOURNAL later this year.
- "Diaphragm Action of Hollow-Core Slab Systems Subjected to Lateral Loading," Iowa State University, Ames, Iowa — Because of the personal tragedies encountered by the two consecutive students, the project could not be completed under the original fellowship program. Eventually, the project [funded by the National Science Foundation (NSF)] was completed in July 1990. Two reports covering different tasks have been prepared for NSF, and a summary paper is scheduled to be written this year for possible publication in the PCI JOURNAL.
- "A New Approach for Design of Moment Resistant Beam-to-Column Connections," University of Arizona, Tucson, Ariz. — The project was carried out in collaboration with Stanley Structures and TPAC Division of the Tanner Companies, Phoenix, Ariz. Two students have completed their master's theses based on this program. A paper has been submitted to PCI for review and possible publication in the PCI JOURNAL.

Academic Year 1987-'88

- "Effect of Edge Distance on Stud Groups Loaded in Shear and Torsion," Oklahoma State University, Stillwater, Okla. — The thesis was completed in 1988 and a paper is being reviewed

for possible publication in the PCI JOURNAL.

- "Kevlar Prestressing of Structural Concrete," Cornell University, Ithaca, N.Y. — The research is complete and a paper, "Developments in Non-Metallic Prestressing Tendons," by **Charles W. Dolan** was published in the September-October 1990 PCI JOURNAL.
- "Shear Strength of Group of Studs with Interaction Effects in Precast Concrete Members," Arizona State University, Tempe, Ariz. — The student candidate is still working on this project for a Ph.D. program. A report submitted in 1990 was not approved for publication by the PCI Connection Details Committee (**Andrew Osborn**, chairman).

Academic Year 1988-'89

- "Behavior of Composite Panels," University of Oklahoma, Norman, Okla. — The thesis has been completed, and a final report, dated September 1991, has been reviewed by both the R&D (**John M. Hanson**, chairman) and the Precast Sandwich Wall Panels (**Kim E. Seeber**, chairman) Committees. A paper has been submitted for publication in the PCI JOURNAL.
- "Effect of Temperature on Bond Strength of Epoxy Coated Prestressing Strand," University of

New Appointment to PCI Technical Committee

The following individual has recently accepted an appointment to a PCI technical committee. We appreciate his interest and voluntary participation.

- *PCI Committee on Precast Sandwich Wall Panels*
Robert T. Long
Composite Technologies Corporation
Ames, Iowa

Wisconsin-Milwaukee, Milwaukee, Wis. — A thesis report has been completed and reviewed by the R&D Committee. A paper, "The Effect of Elevated Temperature on the Bond Strength of Epoxy-Coated Prestressing Strand," by **A. Fattah Shaikh** and **Philip LeClaire** has been submitted for possible publication in the PCI JOURNAL.

- "Horizontal Shear Strength of Machine-Cast Slab and C.I.P. Topping Interface," Portland State University, Portland, Ore. — A research report for a master's degree has been completed. A paper, scheduled for

Research Proposals Solicited

PCI's Research & Development Committee (**John M. Hanson**, chairman) invites proposals for conducting research on "Recommended Practice for Design, Construction and Maintenance of Durable Precast Prestressed Concrete Structures." To obtain a copy of the Project Research Statement and RFP, contact PCI's research director, **Paul Johal**, at (312) 786-0300.



The Chief Executive Officers of Concrete-Related Associations recently held its annual meeting in the Detroit, Mich., area. Representatives from 17 associations focused on ways of increasing public awareness of concrete and masonry, and also discussed the use of metric units in the U.S. construction industry. Pictured left to right are: **Thomas B. Battles**, president, Precast/Prestressed Concrete Institute; **John P. Ries**, managing director, Expanded Shale Clay and Slate Institute; **Graydon R. Powers**, president, American Concrete Pipe Association and American Concrete Pressure Pipe Association; **John P. Gleason Jr.**, president, Portland Cement Association; **Vincent P. Ahearn Jr.**, president, National Ready Mixed Concrete Association and National Aggregates Association; **William E. Mattison**, president, National Slag Association; **Gerard McGuire**, executive director, Post-Tensioning Institute; **Alva D. Wood**, managing director, American Concrete Institute, and secretary of the group; **John A. Heslip**, president, National Concrete Masonry Association; **Nelson J. Cooney**, president, Brick Institute of America; **George F. Leyh**, executive vice president, American Concrete Institute; **Milton J. Collins**, executive director, International Association of Concrete Repair Specialists; **Erast Borissoff**, executive director, American Coal Ash Association; and **Victor A. Walther Jr.**, president, Concrete Reinforcing Steel Institute. **Albert L. Leitschuh**, president, National Precast Concrete Association, was absent when this photo was taken.

presentation by **Franz Rad** at the R&D Session of the PCI Convention in October, will be considered later for possible publication in the PCI JOURNAL.

Academic Year 1989-'90

- "Connections for Precast Concrete Shear Wall Loadbearing Panels Used for High-Rise Buildings," University of Manitoba, Winnipeg, Manitoba, Canada — The thesis was completed in November 1990 and a paper, "Horizontal Post-Tensioned Connections for Precast Concrete Loadbearing Shear Wall Panels," by **Robin Hutchinson**, **Sami Rizkalla**, **Mike Lau** and **Scott Heuvel** was published in the November-December 1991 PCI JOURNAL.
- "Minimization of Floor Thickness in Multistory Buildings," University of Nebraska at Omaha,

Omaha, Neb. — The thesis has been completed and a paper, "Minimization of Floor Thickness in Precast Prestressed Concrete Multistory Buildings," by **Say-Gunn Low**, **Maheer K. Tadros** and **Jagdish C. Nijhawan** was published in the July-August 1991 PCI JOURNAL.

- "Development of a Standard Test for Bond Characteristics of Epoxy Coated and Uncoated Prestressing Strand," Louisiana State University, Baton Rouge, La. — The student candidate has graduated, and a thesis report, dated May 1992, has been submitted to PCI. A paper, "Proposed Test for Determining Bond Characteristics of Prestressing Strand," by **Thomas E. Cousins**, **Michael H. Badeaux** and **Saad Moustafa** was published in the January-February 1992 PCI JOURNAL.

Academic Year 1990-'91

- "Prestressed Double Tee Slab Bridge Decks," Auburn University, Auburn, Ala. — The research project has been completed and the student candidate has graduated. A report will be submitted shortly for PCI review. The review comments will be incorporated into a paper being prepared for possible publication in the PCI JOURNAL.

An analysis of 432 different hypothetical bridge models indicate that the longitudinal shear and moment in the tee section are not significantly reduced by an increase in the transverse prestressing force, as long as adequate shear transfer strength is provided between the adjacent sections. Also, a double tee section with a slab thickness of 5 in. (127 mm) or more has sufficient punching shear capacity to sup-

port the heaviest wheel loads of 22.5 kips (100 kN).

- "Complete Stress-Strain and Shrinkage Properties of High Strength Silica Fume Concrete," University of Illinois, Urbana-Champaign, Ill. (originally at the University of Washington, Seattle, Wash.) — Although the project is behind schedule because the professor and the student candidate have moved, work has been initiated at the University of Illinois at Urbana. Research will be conducted in three phases: a literature search, a test program and an evaluation. Work has started on the literature search with a review of the significance for the project of all research on silica-fume concrete published since the submission of the proposal in 1990. The literature search has been completed, and the test program is being planned. Testing is scheduled to commence later this year.

Academic Year 1991-'92

- "Optimization of Precast Bridge I-Girder Shapes," University of Nebraska at Omaha, Omaha, Neb. — A survey has been conducted among state highway departments, precast concrete producers and engineering consultants to determine the current girders in use. They were asked to identify the potential limitations of currently available precast/prestressed concrete bridge girder shapes when used for continuous span bridges, and to provide recommendations that will aid in the optimization process. Using this information, a parametric study will be conducted to arrive at an optimum girder shape for the application considered. The project is expected to be completed by the end of this year.
- "Lateral Torsional Buckling of Long Prestressed Girders," University of Washington, Seattle,

Wash. — The projects consist of two separate but connected endeavors: investigation of the effects of torsional flexibility on the lateral buckling of long prestressed concrete girders, and establishment of rotational flexibility of elastomeric bearings typical of those placed under such girders. A review of literature is being conducted to identify the work already done in this area.

The existing theory will be extended to include torsional flexibility, and a numerical study will be performed to investigate the influence of different parameters. Experimental work will be conducted to establish the moment-rotation properties for elastomeric bearings. Results will be presented in the form of design charts or equations including the safe tilt angle for girders in terms of span, safety factor, location of lifting loops and properties of bearing pads. Design examples

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will be provided to illustrate the use of the proposed method.

- "Ductility of Embedded Anchor Connections," University of Nebraska at Lincoln, Lincoln, Neb. — The objective of the proposed study is to complete the initial steps required for carrying out a

comprehensive study of ductility demands of embedded anchors when subjected to seismic loading. The literature review has been completed, and the review of current building codes is almost complete.

The test specimens have been developed and designed, and Wilson Concrete Co., Omaha, Neb., has provided eight specimens for testing of embedded anchor plates under cyclic deformations. Testing of the specimens has been initiated and the final report will be completed later this year. **Gary Krause** is scheduled to make a presentation concerning this study at the R&D session of the PCI convention in October.

PCI's Daniel P. Jenny Research

Fellowship Program is under the direction of the Research and Development Committee (**John M. Hanson**, chairman). For additional information regarding the program, contact PCI's research director, **Paul Johal**.

PCI/APA Fall Production Workshop Set for September 19-22

The Architectural Precast Association (APA) and PCI will hold a joint Fall Production Workshop at the Pfister Hotel in Milwaukee, Wis., September 19-22.

The workshop program will consist of seminars which address a variety of architectural precast concrete production issues. Plant tours in the metropolitan Milwau-

FIP XII FIP Congress RETURNS TO USA

After 20 years, the Fédération Internationale de la Précontrainte (FIP) is returning to the United States.

FIP will hold its XII International Congress and Exhibition in Washington, D.C., May 29 – June 2, 1994. The Precast/Prestressed Concrete Institute, organizer of the congress, has scheduled its 40th Annual Convention and Exhibition concurrently with the FIP Congress. Designated as co-headquarters for the event are the Sheraton Washington and Omni Shoreham Hotels.

The congress will provide unprecedented opportunities to gain knowledge of the progress made in the design and construction with prestressed concrete. Top authorities from around the world will address the congress.

The theme of the congress is "Planning for Tomorrow — Prestressed Concrete in the Next Century." [A call for papers was issued in the May-June PCI JOURNAL, p. 108.] An exhibition of goods and services by suppliers from around the globe is planned in conjunction with this event.

The FIP Congress is being held in cooperation with the following societies:

- American Association of State Highway and Transportation Officials
- American Concrete Institute
- American Concrete Pipe Association

- The American Institute of Architects
- American Segmental Bridge Institute
- American Society of Civil Engineers
- American Society for Concrete Construction
- American Society for Testing and Materials
- Architectural Precast Association
- Asociacion Nacional De Industrias Del Presfuerzo Y Prefabricacion, A.C.
- Canadian Prestressed Concrete Institute
- The Construction Specifications Institute
- Expanded Shale, Clay and Slate Institute
- Federal Highway Administration
- Instituto Mexicano Del Cemento Y Del Concreto A.C.
- National Precast Concrete Association
- National Ready Mixed Concrete Association
- National Society of Professional Engineers
- Portland Cement Association
- Post-Tensioning Institute
- Wire Reinforcement Institute

For more information, contact:

Gary H. Munstermann

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175 West Jackson Boulevard, Suite 1859
Chicago, Ill. 60604 USA
Tel.: +1-312-786-0300
Fax: +1-312-786-0353



Left to right: **James Kolakowski**, president, ACI Illinois Chapter, **Armand Gustaferro**, 1992 Henry Crown Award recipient, and **Arthur King**, award sponsor representative.

kee area and a spouses program have been arranged.

The workshop is open to PCI and APA members, and to non-members within the architectural precast concrete industry. For more information about the workshop and registration rates, contact PCI at (312) 786-0300 or at (407) 740-7201. Hotel reservations can be made by calling the Pfister Hotel at (414) 273-8222.

Henry Crown Award Goes to Gustaferro

At its annual dinner held May 30, 1992, The ACI Illinois Chapter honored **Armand H. Gustaferro** as this year's recipient of the Henry Crown Award. The Henry Crown Award is presented annually to a

distinguished member of the local community who has made an outstanding contribution to the concrete and cement industry.

Mr. Gustaferro has been employed as a consultant with The Consulting Engineers Group Inc. (CEG) since 1970. He has consulted on problems related to fire resistance of structures and concrete technology, particularly slabs on grade and prestressed concrete, and he has expertise in the evaluation and repair of fire damaged structures. Prior to CEG, Mr. Gustaferro spent most of his professional career at the Portland Cement Association.

Active in ACI, PCI and ASTM, he has served as a member and often as a chairman of several technical committees. In addition, he has

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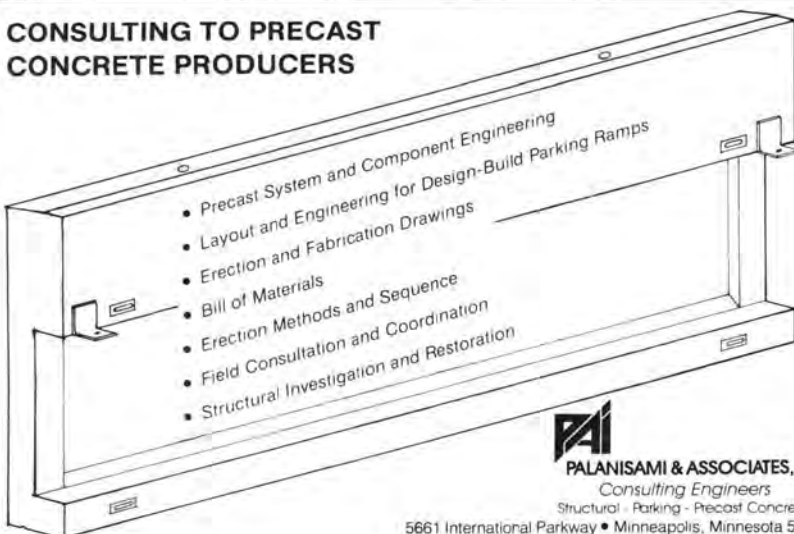
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Felix Kulka (1925-1992)

PCI Professional Member **Felix Kulka**, formerly president of T.Y. Lin International, has died at the age of 66 in San Francisco, Calif.

Born in Brno, Czechoslovakia, he escaped from his homeland during World War II, eventually emigrating to the United States in 1941. Mr. Kulka received a bachelor of science degree in engineering from the University of California, Los Angeles, in 1950. Later, in graduate school, he specialized in prestressed concrete.

In 1955, he joined Professor Lin's original consulting firm in Los Angeles, which later became known as T.Y. Lin International and moved its headquarters to San Francisco. Together, Mr. Kulka and **T.Y. Lin** designed and supervised the construction of many notable precast and prestressed concrete buildings, bridges and special structures in California, Central and South America, and the Pacific Rim.

Designed under his direction were such prominent structures as Sproul Hall at the University

of California at Davis, the Lewiston-Clarkston Bridge over the Snake River at the Washington-Idaho border, the Hipodromo Nacional in Caracas, Venezuela, the cable-hung Rio Colorado Bridge in Costa Rica, the Rio Higuamo cantilevered bridge in the Dominican Republic and the Bank of America Building in Managua, Nicaragua. This latter building survived the catastrophic Managua earthquake of December 23, 1972, in which most of the downtown buildings collapsed.

Active in technical committee work worldwide, Mr. Kulka served as a director of PCI from 1966 to 1968 and later as a juror on two PCI Design Awards Programs.



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been recognized by these organizations on numerous occasions for his outstanding efforts and contributions to the industry.

Mr. Gustaferrero has authored more than 50 papers on concrete technology, prestressed concrete and fire resistance of structures. For his many contributions to the precast and prestressed concrete industry, PCI awarded him with the Medal of Honor Award — the Institute's highest individual award.

Frank Graves Erskine Dies

Frank Graves Erskine, 85, a retired managing director of the Expanded Shale, Clay and Slate Institute, Salt Lake City, Utah, died August 5 at his home in Arlington, Va. Mr. Erskine was a fellow and former director of the American Concrete Institute and a former professional member of the PCI.

Mr. Erskine graduated from the University of Mississippi and received a master's degree in engineering from Cornell University.

During World War II, he served in the Navy construction battalion in the Pacific. He worked for the U.S. Coast and Geodetic Survey in Washington, D.C., until 1937. He then moved to New Orleans and joined the Portland Cement Association (PCA). After his naval service, he was assigned to PCA's Washington, D.C., office.

In 1952, Mr. Erskine was appointed the first managing director of the Expanded Shale, Clay and Slate Institute. When he retired in 1978, the organization named an annual award in his honor.

Final Invitation Issued for Prestressing Workshop

The final invitation has been issued for the international workshop, "Behavior of External Prestressing in Structures." The event, organized by the Association Française Pour la Construction (AFPC), will take place at Saint-Rémy-lès-Chevreuse, France,

from June 9 to 12, 1993.

The purpose of the workshop is to present the state-of-the-art research which has been undertaken over several years in many countries. This is an opportunity to draw up an inventory of the experimental and theoretical results dealing with the different topics related to external prestressing of concrete and composite steel-concrete structures.

The main topics to be addressed during the workshop are:

- The behavior of external tendons, anchorages and deviators

- Study of the overall behavior of externally prestressed structures
- Tests and measurement on site
- Corrosion protection systems

A technical visit to the Normandy Bridge, which is currently under construction, has been scheduled for Saturday, June 12.

For further information, contact:

Dr. Jacques Trinh

C.E.B.T.P. —

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ASBI Convention Will be in Nashville

The fourth American Segmental Bridge Institute (ASBI) convention will be held in Nashville, Tenn., at the Opryland Hotel, November 9-10, 1992.

The ASBI convention agenda includes a general session; detailed sessions on design, construction, and in-depth studies of segmental bridges; and an international symposium. In addition, a tour of the Natchez Trace Bridge has been scheduled for the second day of the convention.

For more information on the ASBI convention, contact the American Segmental Bridge Institute, 9201 N. 25th Street, Suite #150B, Phoenix, Ariz., 85021. Tel.: (602) 997-9964; fax: (602) 997-9965.



John W. Dougill



Paul Zia

Dougill Appointed FIP Secretary General

John W. Dougill is the new secretary general of the Fédération Internationale de la Précontrainte (FIP). He takes over this position from **Ralph Andrew**, who retired in May 1992.

Prior to this appointment, Dr. Dougill was the director of engi-

neering at the Institution of Structural Engineers (United Kingdom). Before joining that institution in 1987, he was professor of concrete structures and technology at Imperial College London. There he was responsible for a major research and testing laboratory. Prior to that, he was a professor of engineering science at King's College London, which he joined as a lecturer in 1964. He has also worked for contractors and spent a year as a visiting research engineer at the University of California at Berkeley in 1967-1968.

Dr. Dougill is known for his research on mechanics of materials, concrete materials and structures. He has been a consultant on materials related problems and on the design of major dam projects. He is a fellow of the Royal Academy of Engineering and a visiting professor in the department of civil engineering at the Imperial College of Science Technology and Medicine.

Zia Receives RCRC Arthur J. Boase Award

Long-time PCI Professional Member **Paul Zia**, distinguished university professor and former head of the department of civil engineering, North Carolina State University, Raleigh, N.C., received the 1992 Arthur J. Boase Award from the Reinforced Concrete Research Council (RCRC). The award was given "for his leadership as an educator whose research work in reinforced and prestressed concrete has resulted in advancing the state-of-the-art of engineering practice."

Dr. Zia has been involved for more than 35 years in research, teaching and consulting work in the field of reinforced and prestressed concrete. Currently, he is engaged in a major research program on high performance concrete. Active in technical committee and administrative work, he served as president of the ACI in 1989.

Dr. Zia is a founding professional member of the PCI and, over the

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years, has made major contributions to the precast and prestressed concrete industry. He is the author of numerous papers, several of which have been published in the PCI JOURNAL. In 1974, he was a co-winner of PCI's Martin P. Korn Award for a paper, "Torsion Design of Prestressed Concrete," published in the March-April 1974 PCI JOURNAL.

Concrete Institute of Australia Strengthens Biennial Conference

In the current Australian economic climate, it is considered that infrastructure will play a major role in planned stimulus to economic growth over the next decade. Therefore, the topic of the Concrete Institute of Australia's 16th Biennial Conference [Concrete '93] to be held in Melbourne, May 12-14, 1993, will be, "Infrastructure: The Role of Concrete."

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Concrete '93 topics will focus entirely on concrete and its role within the construction industry:

- Achievements and developments in concrete
- Infrastructure in Southeast Asia
- Offshore structures
- Concrete materials/technology
- Rehabilitation of structures
- Cementitious materials
- Total quality management
- Construction techniques and technology
- Bridges, roads and railways
- Precast concrete
- Infrastructure tomorrow

Eminent international and Australian speakers have been invited to present papers at Concrete '93. The keynote speaker will be **Peter Matt**, a consulting engineer from Switzerland, a former technical director of VSL. His keynote address at Concrete '93 will be "Structural Concrete — Trends in Europe."

For further information on Concrete '93, contact the conference secretary at Concrete '93, Concrete Institute of Australia, Level 4, 60 Albert Road, South Melbourne VIC 3205, Australia. Tel.: 03 699 4488; fax: 03 696 4049.

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July 14-15, 1993, is the date set for the "Fourth International Conference on Structural Failure, Durability and Retrofitting." The meeting, organized by the Singapore Concrete Institute and the National University of Singapore, will take place in Singapore.

The main themes of the conference will be:

- Structural appraisal
- Strengthening and repair
- Durability
- Retrofitting

Other themes include case histories on structural failure; design and construction techniques; failure mechanisms; material failure; maintenance; geotechnical aspects; and legal and economical considerations.

Original papers that have not been published prior to the conference and state-of-the-art papers on any of the conference themes are welcome. Each intending author is requested to submit an abstract of not more than 400 words to the conference secretary. Each abstract must be prepared on a single side, double space typewritten form and must include the author's address, affiliation, telephone, telex and fax numbers. The official language of the conference is English and all papers shall be written and presented in English.

Submit abstracts by October 1 and direct all inquiries to Dr. **M. A. Mansur** at the department of civil engineering, National University of Singapore, 10 Kent Ridge Crescent, Singapore 0511. Tel.: (65) 772 2284; fax: (65) 779 1635.

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This seminar has been designed by the Corporate Response Group (CRG), a Washington-based firm with extensive experience in crisis management. CRG has worldwide experience in preparing for, managing and recovering from crisis situations, including environmental issues, corporate planning and training. This unique seminar program will address industry-specific crisis scenarios and provide independent consultations with participants.

The registration fee is \$950 per person or \$850 each for two or more persons from the same company. To register or obtain additional information, call (708) 966-6200 or fax (708) 966-9781.

T.Y. Lin Retires,
Continues Lecture Circuit

T.Y. Lin, world-renowned structural engineer and founder of the San Francisco-based consulting engineering firm, T.Y. Lin International, has announced his decision to step down as honorary chairman of the firm. The 81-year-old educator, author and pioneering structural engineer had, in recent years, limited his involvement to a part-time advisory role, having relinquished his ownership in the firm many years earlier. Professor Lin will now focus more on his activities as an international speaker.

As a professor of civil engineering at the University of California at Berkeley from 1946 to 1976, he inspired generations of students with

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his intellect and his enthusiasm for the profession. He has co-authored three widely used engineering books, *Design of Prestressed Concrete Structures*, *Design of Steel Structures*, and *Structural Concepts and Systems*, and he is the author of numerous papers on precast and prestressed concrete.

Professor Lin has received many national and international awards, including the nation's highest honor for scientists and engineers, the President's National Medal of Science Award.

He is a founding professional member of the PCI and served as a director during the Institute's early formative years. In recognition of his many outstanding contributions to the precast and prestressed concrete industry, he received PCI's Medal of Honor, the Institute's highest individual award.

Southern Prestressed Appoints Greene President

Cecil F. (Fred) Greene was recently appointed president of Southern Prestressed Inc., the largest producer of precast, prestressed construction materials in the southeast. Mr. Greene succeeds **Rauno Vaulamo** of Finland. Mr. Greene will continue his duties as president of Southern Ready Mix Inc., (SRM), a leading producer of ready mix concrete and aggregate products in Alabama, and a sister company of Southern Prestressed Inc. Both companies are subsidiaries of the Metra Group, Helsinki, Finland.

Headquartered in Tampa, Fla.,



T.Y. Lin



Cecil F. (Fred) Greene



David Darwin



Kurt Gerstle

Southern Prestressed Inc. manufactures hollow-core slabs, double tees, columns and beams, wall panels, bridge members, architectural precast and specialty products for a variety of uses. The company shares SRM's dedication to quality and service.

Formerly with Martin Marietta, Mr. Greene joined SRM in 1991.

ACI Honors Darwin

David Darwin, Deane E. Ackers Professor of Civil Engineering and director of the Structural Engineering and Materials Laboratory at the University of Kansas, received the Arthur R. Anderson Award from the American Concrete Insti-

tute at its annual convention in Washington, D.C. A long-time member of PCI, Dr. Darwin has been a faculty member at the University of Kansas since 1974.

Gerstle Honored by University of Colorado

A retired professor, **Kurt Gerstle**, has received a Distinguished Engineering Alumni Award from the University of Colorado's (UC) College of Engineering and Applied Science in Boulder, Colo. These awards are given annually by the college's Engineering Development Council to graduates who have distinguished themselves through outstanding personal and profes-

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that some men cannot make
a little worse and sell a little cheaper.
And the people who consider price only
are these men's lawful prey."*

— John Ruskin

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Dr. Gerstle's award is for his contributions to the education field. "He brings to his classroom, research and scholarly efforts, and community projects, a rare enthusiasm and incredible professional expertise," said Professor Emeritus **Leonard Tulin**, a former Distinguished Engineering Alumni Award recipient.

Dr. Gerstle has made important contributions to the understanding of the properties and loading characteristics of reinforced concrete and he is the author of numerous papers which have appeared in technical publications, including the PCI JOURNAL.

Govindaswamy Promoted

Raja Govindaswamy, P.E., has been promoted to deputy manager of Booker Associates Inc. of

Kansas. In this capacity, he is responsible for the project management, design and plan preparation of bridges, structures and special transportation projects. He also is responsible for managing the firm's in-house computer-aided drafting and design (CADD) system, and assisting **Steven K. Bachenberg** in the administration of the office.

Mr. Govindaswamy has participated in the design of steel, concrete and prestressed concrete bridges throughout Kansas. He is a registered professional engineer in Kansas and is a member of the PCI Bridges Committee.

T.Y. Lin International Expands Capabilities, Names Murillo Senior VP

Juan A. Murillo has joined T.Y. Lin International in its San Francisco headquarters as a senior vice president. Mr. Murillo will manage operations and provide technical direction for the firm's San Francisco-based structural engineering groups on domestic as well as foreign projects.

During his 23 year career with major international engineering firms, Mr. Murillo has specialized in the design of concrete segmental and cable stayed bridges as well as other transportation structures. His experience has encompassed all project phases, including design, analysis, construction and management.

Mr. Murillo has directed the design of numerous bridge and roadway projects in the United States and overseas. Several of his projects, such as the Wiscasset Bridge in Maine, the MARTA Transit Bridges in Georgia, and the Linn Cove Viaduct in North Carolina, have received awards from industry organizations, including the PCI.

Also joining the firm in the San Francisco, Calif., headquarters office is **Egemen R. Ayna**, a specialist in computer structural analysis.

Mr. Ayna supplements the expertise of the staff in performing complex computer analyses. He

has contributed to the development of numerous computer programs for time-dependent, nonlinear and dynamic analyses, including ADINA and BDII. His work has also encompassed special programs which analyze the dynamic interaction between high velocity vehicles and guideway structures.

The recent addition of **Kevin G. Hooper** and **Robert J. Healy** to the firm's East Coast offices will further enhance the firm's capability to provide a full spectrum of engineering services for transportation clients.

Mr. Hooper is a principal of the firm, and will be responsible for traffic planning and traffic engineering projects. His 17 years of experience include multi-modal corridor and subregional studies, special event traffic management planning, and the training of state and local engineers in the use of travel forecasting models.

Mr. Healy, chief design engineer in the firm's Alexandria, Va., office, has 15 years of experience in transportation facilities with the Maryland State Highway Administration and further expands the firm's structural engineering capabilities. He has directed both in-house design groups as well as the efforts of consulting engineering firms in the preparation of construction plans, specifications and cost estimates for bridge projects throughout the state.

Hanson Elected to National Academy of Engineering

John M. Hanson has been elected to the National Academy of Engineering for extraordinary contributions to the investigation and evaluation of deteriorated and damaged structures. Dr. Hanson has been president of Wiss, Janney, Elstner Associates Inc., Northbrook, Ill., for more than 10 years, having joined the consulting and research firm in 1972. Prior to that, he was employed by the Portland Cement Association, Skokie, Ill., and served on the fac-

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ulty of Lehigh University, Bethlehem, Penn. A former chairman of PCI's Technical Activities Committee and past ACI president, Dr. Hanson is currently serving as chairman of PCI's Committee on Research and Development.

High Concrete Receives Award of Excellence

High Concrete Structures Inc. was recently recognized for the major role the company played in the construction of the new Pepperidge Farm Cookie and Biscuit Factory located in Denver, Penn. At a June 17 awards ceremony, the company was granted the prestigious Award of Excellence in the category of Concrete Construction. The award was bestowed by the Keystone Chapter of Associated Builders and Contractors (ABC).

High Concrete Structures Inc. was responsible for the production and erection of the precast concrete components for the entire plant, including walls, roof and supporting members.

According to the project manager, **Dale Fitterling**, the recent award marks the third consecutive year High Concrete Structures Inc. has received the Award of Excellence in this category. High Concrete Structures Inc. is headquartered in Denver, Penn., and maintains a second manufacturing facility in Vineland, N.J.

PCI Design Award Presented in North Carolina

The first presentation of the 1992 PCI Design Awards Program took place in Charlotte, N.C., on August 15, during the annual North Car-

olina AIA meeting. PCI President **Thomas B. Battles** presented an award to Walter Robbs Callahan and Pierce Architects for the Department of Administration Deck I in Raleigh, N.C. The precast concrete producer, CSC Concrete Company, was also recognized at the luncheon meeting. The structural engineering firm for the project, Wilbur Smith Associates, will receive its award at an ASCE luncheon meeting on August 27 in Charlotte.

Producers of the 1992 winning projects will be honored at an awards banquet during the PCI convention in Nashville, Tenn.

Tips for Associations

What key trends are expected for the 1990s and beyond? Some trends listed by Association Management that will impact on organizations involved in the concrete construction industry include:

1 Education and training —

Education will be a high priority at every level, and technical societies and associations will play a major role by offering increasing numbers of education and training programs. A strategy will be needed for retraining the workforce.

2 Worker shortages —

There will be both increasing specialization and a need for workers with broad-based experience and skills. Entry-level workers will be less educated.

3 An information society —

Computers will be easier to use and link together. Information will be increasingly tailored and specialized.

4 Globalization —

The economy will become increasingly international and global competition will intensify.

5 Domination of technology —

Advances in communication will drive the need to manage the technological explosion. The gap will grow between the information haves and have-nots.

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