T.Y. Lin
(1911-2003)

By Jim DeStefano

Tung Yen Lin passed away on November 15, 2003. He was perhaps the most extraordinary structural engineer of the last century. Born in China in 1911, his engineering career spanned over 70 years. His accomplishments as a structural designer, educator, author and innovator have been remarkable.

Working on the Railroad

After earning a Masters degree from the University of California at Berkeley in 1933, T.Y. Lin returned to China to work as a railway engineer. Politically, these were stormy times in China. The Japanese Imperial Army had invaded China and the communist rebellion was gaining strength.

He designed bridges for the railways that were expanding rapidly across the countryside. At age 25 he was made the chief bridge engineer for the mountainous Congqig-Chengdu Railway, where he was responsible for the design of over a thousand bridges. Due to the wartime shortage of steel, some of his designs were not built until decades later.

University Professor

In 1946, T.Y. Lin had an opportunity to return to UC Berkeley as a professor. He became known for his unique teaching style. He taught his students how to design structures rather than just to analyze them. His courses stressed understanding of structural forms and structural behavior, and de-emphasized the mathematics.

In 1976, he retired from the University to spend more attention on his structural design practice.

The Father of Prestressed Concrete

T.Y. Lin was often referred to as the "Father of Prestressed Concrete." The technology of prestressed concrete was first developed in Europe. T.Y. Lin became intrigued by this new technology and, in 1953, traveled to Belgium and spent a year working in the laboratory of Gustave Magnel performing research in the development of prestressed concrete.

While in Belgium, he wrote a textbook on Prestressed Concrete that made the new technology easy to understand. His book was translated into several languages, and taught engineers around the world how to design prestressed concrete structures.

He developed the "load balancing" method for designing prestressed concrete. This method was easy to understand and did not require excessive mathematical calculations.

After returning to the United States from his year in Belgium, he promoted the new technology to the California Highway Department and convinced them to build bridges with prestressed concrete. For decades, he innovated and promoted the use of prestressed concrete for long span structures, buildings, nuclear containment vessels and bridges.

T.Y. Lin International

In 1953, he formed the consulting engineering firm of T.Y. Lin Associates in Los Angeles. The firm was managed by a former student, while T.Y. Lin divided his time between teaching and practicing engineering. In the early years, the firm's clients were all precast concrete producers who were just starting to manufacture prestressed components. Later, post-tensioning suppliers became the firm's primary clients.

Over the next two decades, several branch offices were started across the United States, Central America, and Asia. The San Francisco branch became the flagship office and later evolved into T.Y. Lin International. They became known for designing signature bridges and long-span building structures.

In 1992, T.Y. Lin left the firm after it had been sold to a large "full-services" transportation engineering firm. Since leaving T.Y. Lin International, he continued to design structures as a consultant affiliated with OPAC Engineers in San Francisco.■

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Paul F. Fratessa, S.E., Former NCSEA President (1938-2003)

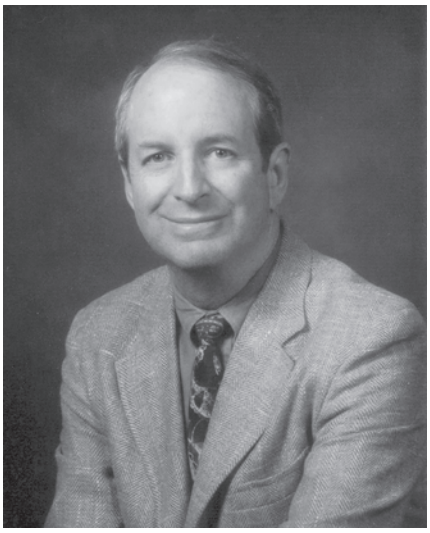
Paul F. Fratessa, President of NCSEA from 1994-1995, passed away September 26 at his home in Lincoln, California, after a long battle with melanoma. Paul was president of SEAOC from 1992-1993 and president of SEAONC from 1989-1990. He had recently retired from Cal Poly, where he served as the Architectural Engineering Department head from 1995-2002.

"…recently retired from Cal Poly, where he served as the Architectural Engineering Department head…"

Fratessa was a registered structural and civil engineer in California. After working for 18 years with structural engineering firms, he became CEO of his own firm, Paul F. Fratessa Associates, Inc., in Oakland, for more than 20 years. He then moved to San Luis Obispo in 1995 to join the Cal Poly faculty as the Architectural Engineering Department head, and served for seven years before retiring in the fall of 2002 to be close to his family.

"…active in earthquake public safety efforts…"

Fratessa was active in earthquake public safety efforts, serving on the California Seismic Safety Commission from 1986 through 1995, and was appointed chairman of the commission in 1994 and 1995 by governors George Deukmejian and Pete Wilson. Likewise, in 1992 he was a member of the board of directors of the California Universities for Research in Earthquake Engineering (CUREE).



His literary contributions include a long list of articles and papers for structural engineering-related publications and conferences.▪

Lynn S. Beedle (1917-2003)

Dr. Lynn Beedle, whose passion for tall buildings drew together the world's engineers and architects and inspired university students during six decades of service to Lehigh University, PA, died in October at the age of 85.

"…long-time director of the Council on Tall Buildings and Urban Habitat…"

Beedle was perhaps best known as the long-time director of the Council on Tall Buildings and Urban Habitat, an international organization of 1,500 engineers, architects and city planners that he founded at Lehigh in 1969.

He was selected by Engineering News Record as one of the top 125 people in his field in the past 125 years. Beedle served as director of Lehigh's Fritz Laboratory and authored two widely used books, Plastic Design of Steel Frames and Structural Steel Design.

Beedle believed skyscrapers, if planned properly, could be aesthetically pleasing, clean, and safe, and could make cities hospitable—even delightful—places to live. As director of the Council on Tall Buildings and Urban Habitat, he promoted urban and regional planning, championed skyscrapers as a viable alternative to urban sprawl, and inspired the world's architects and engineers to seek solutions to the problems of tall buildings and cities.

Beedle championed people he felt deserved recognition, exemplified by his efforts to raise funds to establish an endowed chair at Lehigh for the late Fazlur Rahman Khan, a renowned structural engineer who completed engineering designs for the Sears Tower and John Hancock Center in Chicago, and the Haj Terminal at Jeddah International Airport in Saudi Arabia.

Beedle, a native of San Francisco, joined Lehigh's faculty in 1947 and earned his master's degree in 1949 and his Ph.D. in 1952 from the university. At Lehigh, Beedle also served 25 years as director of the Structural Stability Research Council.▪