

A founding father

Sarah Fister Gale



When Paul Zia came to the United States from China as a young man, he imagined it would be just a short stopover until the politics in his home country settled down. One thing led to another, and Zia stayed in the United States, where he built a family and a career and helped launch the precast concrete industry.

Born in China in 1926, Zia went to secondary school and university in China. When the Communists took over in 1949, the year he graduated, he headed to the United States to pursue further studies while biding his time.

“At the time I thought I’d go back home when the policies changed, but the U.S. did not recognize the Chinese regime. Then the Korean War started, and the Cold War,” he says. “As time passed, my roots started to grow.”

Zia had always been interested in prestressed concrete. He noted that many projects were completed using the material in Europe during World War II. “But in the U.S., no one was engaged in it, and there was very little prior experience,” he says.

In 1951, he was offered a summer job at Lakeland Engineering Associates in Lakeland, Fla. It was there that he first began studying applications for prestressed concrete under the direction of Harry Edwards—one of the founders of PCI and the namesake of the association’s Harry H. Edwards Design Award for Outstanding Achievement.

“Harry had a vision,” Zia says of his mentor.

Following that summer job, Zia got his graduate degree at the University of Washington in Seattle; then he returned to Lakeland in 1953. Before there were even plants to manufacture precast, prestressed concrete, he and Edwards spent their off-hours designing projects using the material. Soon after, they decided it was time to push the industry forward.

Edwards, Zia, and their partners launched Lakeland Engineering Associates Prestressing (LEAP) and persuaded several producers in Florida to build prestressed concrete plants. Then, to prove the benefits of prestressed concrete, the chief bridge engineer, Bill Dean, of the Florida Department of Transportation decided to put two similar bridge designs out for bid, one using prestressed concrete and the other a traditional design, to demonstrate how much more economical the prestressed concrete design could be.

The savings were substantial. “It was a big stimulus for the industry and a great opportunity for highway bridge projects in Florida,” Zia says.

The industry took off in the years following, and by the late 1950s, LEAP had developed 20 products that were available to producers with standard design details worked out in handbook form, including the LEAP Tee, which is now known as the double tee.

In 1954, five companies involved in the precast concrete industry in Florida launched PCI, an effort helped by Edwards and Zia, who became

two of PCI’s earliest professional members.

A year later he returned to the University of Florida as an instructor, where he researched prestressed and precast concrete applications while pursuing his PhD in structural engineering. He also began writing papers for what would eventually become the *PCI Journal*.

After receiving his doctorate in 1961, he took a position as a professor in the civil engineering department at North Carolina State University, where he taught prestressed concrete and other courses for 35 years until his retirement in 1996. He continues to perform research and advise graduate students at the university.

Looking back on the industry he helped to create and his role in the founding of PCI, Zia says he is proud of what the institute and the industry have accomplished. “PCI had a legitimate role to play in our success, representing the industry as both a technical and a trade organization,” he says.

As Zia looks to the future, he says he hopes that the next generation will continue to invest in research and development and in promoting precast concrete for new types of projects, including renewable energy and environmental structures, such as sewage treatment and water purification plants.

“Precast is ideal for these applications,” he says. “But the industry has got to convince the engineers who design them that precast is the right choice.” ■