

Another door opens



Professor Antoine Naaman has had a profound influence on the precast, prestressed concrete industry. He dedicated his career to educating industry professionals worldwide about the benefits and applications of prestressed concrete. Along the way, he chaired industry committees, led research studies, wrote two textbooks, and won multiple awards, including two PCI Martin P. Korn Awards and the PCI Distinguished Educator Award in 2011.

None of it would have happened if the aerospace industry had been just a little bit more welcoming.

Naaman was born and raised in Lebanon, and after receiving top marks in high school he attended the École Centrale in Paris, France, to study engineering.

"It was obvious from the beginning I would be an engineer," he says.

By his third year of college Naaman decided he would specialize in aeronautics. There was just one problem. With a Lebanese passport, he could barely get through the front door of most aerospace companies.

"Every time our professor wanted to take us to visit an aviation company, I had to get special permission from the government," he says.

After a while it became apparent that his Lebanese background meant he would never land an international aerospace job, and there wasn't a strong enough aerospace industry in the Middle East to justify the degree.

"It was a big disappointment," he says. But that disappointment didn't last long.

Naaman switched his specialty to civil engineering and discovered prestressed concrete. At the time, France was a leader in the use of prestressed concrete and he recognized that this was an area where he could be truly innovative. "I knew that if I specialized in prestressed concrete I would have something special and at the leading edge," he says.

He went on to get a specialty degree in reinforced and prestressed concrete from the Centre des Haute Études de la

Construction in Paris in 1965. After a brief stint working back home, he took a job in Montreal, QC, Canada, working on the famous Habitat 67 project, a housing development comprising 354 identical, prefabricated concrete forms arranged in various combinations.

He longed to return to the academic world, though. So after a few years he returned to school, receiving a masters and PhD from the Massachusetts Institute of Technology. Then he took a teaching position at the University of Illinois–Chicago. During his 10 years at the university he wrote *Prestressed Concrete Analysis and Design: Fundamentals*. The book combines the fundamental analysis of prestressed concrete that he learned in France with the practical and cost-effective approaches he learned in the United States.

"It was a tremendous accomplishment for a newcomer," he says.

At the same time, Naaman joined PCI, where he became a member of several technical committees and developed a strong network with his industry peers.

"PCI gave me amazing exposure to so much knowledge and the chance to participate in industry discussions about real-world problems," he says. "I learned a lot."

In 1983, he took a job at the University of Michigan, where he continued to teach until he retired in 2007. During that time, Naaman wanted to do more research into prestressed, precast concrete applications, but times had changed, and the National Science Foundation was focusing its research grants in other areas.

Despite limited resources, he continued his work, often employing the help of students. He worries that the continued lack of funding will cause the next generation to forgo research into the prestressed, precast concrete sector, which could hurt the industry for the long term. He hopes that PCI and its members will continue to provide grants and seed funding for these research projects so that the industry can continue to grow.

"It's not enough for us to solve practical everyday problems," he says. "To stay relevant we need to support innovative research for the next generation of products." ■