Programming precast

Sarah Fister Gale



Simon Harton was born in the former Yugoslavia, a land of pink cobblestone streets, clear blue Mediterranean water, and a long history of building with precast concrete.

As a boy, he loved taking things apart and building towers with his toys, so he

naturally gravitated to engineering in college. When he graduated in the early 1950s, he landed a job with the construction firm where he was first introduced to precast/prestressed concrete.

"It was after the war, and many European countries didn't have enough housing," he says. His employer had developed its own system for building local housing using precast concrete. "Precast concrete was a fast and economical solution for the housing need."

"Precast concrete was a fast and economical solution for the housing need."

Then in 1970, a colleague in the United States told Harton that LEAP Associates in Tampa, Fla., was looking for an engineer with precast concrete experience and suggested he apply for the job. Harton sent his resume, and a few months later Harry Edwards, president of LEAP and a founding member of PCI, sponsored Harton to come the United States.

It was a huge move for Harton, whose thick European accent made it difficult to get along at first. "I spoke every word in English," he says. "But no one understood any of it."

Eventually he adapted, then spent the next seven years working with Edwards on residential, commercial, and industrial projects. One of his most memorable was the Mercedes-Benz Superdome in New Orleans, La., where Harton engineered the shop drawings to fabricate massive tubs to capture rainwater on the roof, and a complex system of bleachers and seating. "At the time there was no drafting software or office computers, so the only way to do the bleachers was to calculate the geometry of every seat in the stadium," he says. The project was so complex that Harton worked with his colleague Das Gupta, who was also a programmer, and wrote a computer

program in Fortran that could succinctly calculate all of the dimensions. It was the first time that computer programming was used for such an application, and it worked beautifully, he says. "Every seat fit perfectly."

In 1977 Harton took at a job at Daniel International Corp. (now Fluor), leading a major precast concrete project in Saudi Arabia. "I was very happy at LEAP, but at the time it was still a small consulting firm and I had two children to put through college," Harton says of the decision. "Harry understood."

Harton and LEAP stayed in contact, and nine years later, he returned to LEAP, where he is now chief engineer and head of LEAP's efforts in developing and designing precast concrete structures and forensic engineering.

Edwards was not only an employer but also a mentor to Harton throughout his career. Early on, Edwards brought Harton to PCI's annual conventions, and in 1975 he sponsored him to join the organization. Harton has been an active member ever since, volunteering for years on the Technical Activities Council and Prestressed Concrete Piling Committee. He was also named a PCI Fellow in 2003. "I was very proud of that," he says.

As a member for more than 40 years, Harton has seen PCI mature with the industry. "In the early days it was just a lot of small companies who were enthusiastic about what we were all doing," he says. "They were people who wanted to build an industry and make it better for everyone. It was an exciting time."

He says PCI was more like a fraternity than a business organization in those days, but it has evolved over time. For a while the meetings were attended by more managers than owners, and the focus shifted to cost efficiencies and business growth rather than new innovations. It made sense for the time, he says, but he's excited that the pendulum is swinging back.

Today he sees a lot of the entrepreneurial spirit that he recalls from the early days of PCI, and he's happy to see efforts put into new mentoring programs and college courses that introduce the next generation to PCI. He hopes the organization will continue to invest in supporting young people as they enter the industry. "This is a tough industry to be an engineer in," he says. "Everything has to be perfect." He says he believes that senior members of PCI need to make the time to mentor these young people in order to keep the industry thriving. "That is how we will stay strong."