

## In theory and in practice

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Arturo Schultz was born and raised in Maracaibo, Venezuela, where his American father was stationed while working for Exxon-Mobil. When the oil industry in Venezuela was nationalized, Exxon moved all of its employees to the United States, forcing Schultz to finish high school in Dallas, Tex.

“The first year was a culture shock, but after that, I got to like it,” Schultz says, “though the summers were tough.”

Schultz attended college at Southern Methodist University (SMU) in Dallas, where he initially studied electrical engineering. When he took a class in reinforced concrete design, though, he fell in love with concrete bridges.

“There is a simplicity and beauty to a bridge,” he says. He marveled at the engineering required to build a structure that had a foundation in shifting soil and could handle millions of cars and trucks crossing it in any weather for decades. “It’s a living organism going through an incredibly diverse series of challenges, yet they serve us day in and day out,” he says. “The fact that they could do that, to me, was amazing.”

That passion led Schultz to the precast concrete industry, where he built a career studying and teaching the characteristics of prestressed concrete, how it responds under load, and how it works in concert with prestressed steel.

He attended the University of Illinois Urbana-Champaign for his master’s degree because it was known for having a strong program in reinforced and prestressed concrete and stayed to get a PhD, doing his graduate research on reinforced concrete building frames and testing them on the department’s shake table.

After getting his doctorate, Schultz bounced around, teaching at SMU and North Carolina State University in Raleigh; working for the National Institute of Standards and Technology (NIST) in Gaithersburg, Md.; and eventually landing a professorship at the University of Minnesota in Minneapolis. “At that point, my wife said, ‘We can’t move around anymore,’” he says, “so we stayed put in Minnesota for 24 years.”

Schultz spent those years teaching courses in concrete design, structural analysis, earthquake engineering, and structural dynamics. He and his colleagues also secured funding for a new research laboratory from the National Science Foundation to conduct tests of structural systems. That is when he first became acquainted with PCI. “I am so grateful for PCI’s support in many respects,” he says.

PCI covered the cost for Schultz and some of his students to attend PCI conventions and PCI Committee Days, and members hosted seminars for his students to help them understand the role that they could play in the industry when they graduated.

Schultz also benefitted from the Daniel P. Jenny Fellowship program, which provided him with grants to support his research. “It is a tremendous program because it shows the university that you are able to bring in research dollars and that you are connected with an industry that really wants to work you,” he says.

The guidance he received from industry leaders was often as valuable as the funding. “I wanted my career to be spent on issues that were important to society, and they helped me figure out what the truly important problems are,” Schultz says.

PCI’s support also helped him win additional financial grants from the university and other organizations to acquire products to test and to pay for additional technical assistance. He says that for one project to study the shear strength of deeper hollow-core slabs, he and his graduate student were able to turn a \$25,000 Jenny grant into \$250,000 worth of research support.

In turn, Schultz has been an equally important asset to PCI. He has written more than 35 *PCI Journal* papers and other PCI papers and technical reports, three of which garnered prestigious PCI awards: the 2014 Charles C. Zollman award, the 2012 Martin P. Korn award, and the 2010 George D. Nasser award. He has also served on a number of PCI committees and councils, including the Seismic Committee, the Blast Resistance and Structural Integrity Committee, the Hollow Core Committee, the Journal Advisory Committee, the Standards Committee, and the Research and Development Council.

“Even if I had not done research, just going to the committee meetings has been huge to my career,” he says. Schultz says that the insights he gleaned from PCI members over the years helped him put academic ideals into context for himself and his students. “When a dozen people with infinite experience share their viewpoints and recommend procedures in a PCI committee meeting, it is tremendously valuable.”

He encourages other academics to take advantage of the benefits PCI offers and to become an active part of the community. “Get involved in the committees because that’s where things are happening and that’s where you’re going to learn,” he says. “Every time I attend committee meetings at PCI events, I’m learning from the people who really know the stuff, and I bring it back to the classroom.” **D**