

CAD pioneer

Sarah Fister Gale



James Sirko was born and raised on a farm in south central Pennsylvania, and he was rarely idle. When he wasn't working on the farm, he and his father had a business repairing roofs of barns built into the sides of hills in Appalachian Mountain country. "On one side you could drive right into

the barn, and on the other it was a long and steep drop to the barnyard below," he says.

When Sirko graduated from high school in a class of 92 students, he headed to Colorado State University in Fort Collins with plans to study engineering. He originally saw himself as an electrical engineer (he also fixed televisions in his spare time), but registration was done alphabetically. By the time it was his turn, all of the electrical engineering spots were full, so he chose civil engineering and never looked back.

At the time, precast concrete wasn't a popular academic topic. Sirko says he recalls one graduate-level course where the professor talked about post-tensioned concrete as one of many topics on material design. When he graduated in 1973, he landed an engineering job at Rocky Mountain Prestress in Denver, Colo. "From that point forward, precast became my entire career," he says. "It was the luckiest thing to happen in my life."

Sirko worked at Rocky Mountain for several years, and was eventually promoted to plant engineer for the company's facility in Kansas City, Kans. A few months after he moved his family, though, the plant closed. Sirko didn't want to go back to his old position, so he found a job as assistant chief engineer and quality control manager for Precast Schokkbeton, an architectural concrete precasting company in Kalamazoo, Mich.

He loved the job, but he missed the wide-open spaces of the West. So after two years, Sirko found a new position as chief engineer at Stanley Structures in Cheyenne, Wyo., where he stayed for six years until that plant shut down in 1984. "It was heartbreaking," he says. "We worked so hard and built so much. It was difficult to be the one who locked those doors."

While in Wyoming, Sirko worked on his master's degree in business administration but was two classes short when he returned to Denver for a new position at Stanley. A year later he opened his own company, Sirko Associates Inc., offering drafting and engineering support for the precast concrete industry.

Out of the gate he could barely handle all the work, he says, and within three years he had 25 drafters and engineers on staff, with all drafting done by hand. Then Sirko hired a couple of young drafters who changed everything.

They had been taught to draft using AutoCAA®, and although some in the precast concrete industry were using the software, it was not widely embraced. The rest of Sirko's team learned (sometimes painfully) to use the software, and customers were amazed. "The drawings appeared so clean and precise—there was no confusing a 'four' with a 'nine'," Sirko says.

"It was then that we wrote AutoCAST, a software specifically made for the precast industry with many time-saving functions that worked with a digitizer pad and a programmable puck."

Soon, members of Sirko's staff were logging as many as 30 hours per week supporting clients as they increased their use of AutoCAD and AutoCAST. Sirko says he realized that there was a deep, unmet need in the industry that his staff could fill. He geared up to meet the requirements of an AutoCAD dealership and launched CAD-1, an AutoCAD sales, training, and support company focused on precast concrete designers. He and a handful of others provided on-location network wiring and CAD training services to precasters, architects, and engineers nationwide and helped CAD-1 become a leading AutoCAD dealer and training facility in the Americas. Sirko ran CAD-1 until March 2018, when it teamed up with Applied Software Technologies Inc. of Atlanta, Ga.

Sirko joined PCI in 1985, shortly after launching his engineering company. He'd had mentors who were members, but membership in those days seemed to be reserved for senior leaders. "I knew that if I wanted to serve this industry I had to be a part of it," he says. "The move to involve more young people in this industry is one of the best things we ever did."

Once Sirko joined, he became actively involved. For more than 34 years, he sat on multiple committees, was the professional director from 2007 to 2008, participated on the blue-ribbon review of the sixth and eighth editions of the *PCI Design Handbook: Precast and Prestressed Concrete*, and co-presented *PCI Design Handbook* seminars all over the country from 2005 to 2011. He was named a PCI fellow in 2012.

"PCI is the voice of this industry," he says. "The industry wouldn't have achieved its potential without PCI."

Sirko is especially interested in the increased life safety that precast concrete construction can offer over midrise construction of flammable materials. "Precast concrete offers inherent fireproof protection and is cost competitive," he says.

"PCI can be the leading voice in the importance of fire safety in building design to provide a safer and more resilient built environment." 