



MEET CARIN ROBERTS-WOLLMANN

From tee times to T beams

Sarah Fister Gale



Carin Roberts-Wollmann has had a charmed career. She grew up in the Midwest and attended the University of Nebraska on a full golf scholarship. She had originally planned to study architecture because she loved figuring out how things were constructed. “In the mid-seventies,

that is what counselors suggested to young ladies interested in buildings,” she says.

But once school began, she realized she was more interested in what kept the buildings up than what they looked like, so she changed her major to civil engineering.

She graduated in December 1983 and was hired as a construction engineer by Austin Bridge Co. in Texas, where she was assigned to work as an engineer on the San Antonio Y bridge project. It was the first precast concrete span-by-span segmental bridge ever built in Texas, and Roberts-Wollmann was daunted. “I never had a class in prestressed concrete, so I had to learn everything on the job.”

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She spent the next several months teaching herself about external post-tensioning, anchor sizes, anchor positioning, how spirals work, and every other detail that went into designing a precast concrete segmental bridge.

“I learned so much,” she says, “but it also made me realize that my bachelor’s degree didn’t fully prepare me for this work.” So she decided to pursue her master’s degree in civil engineering.

Because she was already in Texas, Roberts-Wollmann applied to the University of Texas at Austin and Texas A&M in College Station. She got into both and chose Austin—only later realizing it was one of the top structural engineering programs in the nation. “I just got lucky,” she says.

Her original plan was just to complete her master’s degree, but she loved the program and a professor suggested she take the entrance exam to get her PhD just to see if she could pass.

She did pass, and in the first year, the Texas Department of Transportation funded a project to monitor the final phase of

the San Antonio Y bridge project, which was to be constructed by her old employer. “I got to do fieldwork monitoring the bridge during construction and for about one and a half years after,” she says. She later coauthored a paper titled “Live Load Tests of the San Antonio ‘Y,’” which was published by the *Journal of Bridge Engineering* in December 2001.

After receiving her PhD, Roberts-Wollmann spent three years working as a bridge design engineer for Parsons Brinckerhoff in North Carolina. Then one day she got a call from a professor at Virginia Polytechnic Institute and State University in Blacksburg. The school was putting together a list of candidates for a professor position, and he asked if she was interested. “I made the short list and got the job,” she says. That was in 1999, and she has been teaching civil and environmental engineering at Virginia Tech ever since.

“The first semester was terrifying,” she says, but over time, she came to love working with students and introducing them to design work.

She joined PCI in her early days of teaching as a way to stay connected with the industry and to look for opportunities to do new precast concrete research. “PCI is a great place to find ideas and to learn about current trends so I can stay ahead of the textbooks,” she says.

Her connections at PCI helped her identify many of the research projects she has pursued over the years, including a project to develop a unique method to determine effective prestress in post-tensioned segmental bridges and another to utilize ultra-high-performance concrete in connections between precast concrete bridge elements. She is currently studying new ways to assess corrosion damage on low-level bridges over salt water built in the 1950s and 1960s on Virginia’s coast. “We want to develop a better method to conduct load ratings on these vital paths,” she says.

She now encourages her students to join PCI and other industry groups, and she regularly taps PCI members to give them plant tours and to make presentations about the benefits of precast concrete in bridge designs. As they embark on their careers, she hopes they will take advantage of PCI to build their knowledge and networks. “It can help them make connections and set their expectations about the industry that will last their whole career,” she says. **D**