

A global adventure in bridge construction

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George Morcoux, a professor in the Durham School of Architectural Engineering and Construction at the University of Nebraska–Lincoln, reflected on his professional journey in an interview with *PCI Journal* recently.

“My father was a structural engineer with a specialization in bridges,” Morcoux says. “He was working in the government in Egypt. He was actually the head of the bridge division.”

His father’s job played no small part in Morcoux’s career choice. “I was so interested in the work he does,” Morcoux says. “When I was young, I traveled with him. I was very excited to see such large construction projects, large bridges over the Nile in Egypt.”

He went on to study civil engineering at Cairo University in Egypt, where he completed his bachelor’s and master’s degrees. After completing his master’s degree, he had the option of continuing as a design engineer at a large company in Egypt or traveling and studying bridges abroad. He opted to go to Canada to complete his PhD at Concordia University in Montreal.

“One of the most important decisions I made was to continue my graduate study and travel abroad,” he says.

After receiving his PhD, he completed postdoctoral work in the Department of Building, Civil, and Environmental Engineering at Concordia University and the Department of Civil Engineering and Applied Mechanics at McGill University in Montreal. As part of this work, he participated in the second phase of the National Research Council Canada’s Institute for Research in Construction Building Envelope Life Cycle Asset Management and bridge maintenance optimization research projects.

In 2014, Morcoux was recognized with the PCI Educator Award. He has taught at the University of Nebraska–Lincoln

since 2005, and his teaching interests include the design of reinforced concrete; precast, prestressed concrete; formwork systems; and concrete bridges.

His current research interests include ultra-high-performance concrete, precast concrete bridge systems and connections, and large-diameter prestressing strands. He has three patents and has authored or contributed to more than 150 referenced publications.

PCI has been supportive of Morcoux’s career and has given him and his students several fellowships, including the Daniel P. Jenny Fellowship. The 2007 Jenny fellowship was awarded for “Guidelines for Transverse Design and Detailing of Adjacent Box Beam Bridges.” The 2008 Jenny fellowship resulted in the paper “Ultra-High-Performance Concrete in Standard Precast/Prestressed Concrete Products.”

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Morcoux has given back to the institute through his service on various PCI committees, including the Bridges Committee, International Committee, Journal Awards Committee, Structural Design in UHPC Committee, and Student Education Committee. He is also chair of the UHPC Bridge Subcommittee.

The greatest challenges Morcoux faced include getting contractors, owners, and producers excited about ideas from his research so he could take his results into the field. Without the collaboration of other stakeholders, including transportation departments, he can’t develop projects.

“Ideas will die in the lab,” he says. ▮