



## MEET VILAS MUJUMDAR

# Envisioning a total-precast future

Sarah Fister Gale



Vilas Mujumdar is a math wizard. As a child growing up in Indore, India, he excelled in his math classes, completed high school at 14, and broke records with his math scores in college. “It was what I wanted to do with my life, teach math,” he says.

It wasn’t a common path in those days and no one of his family had a math background, but in the early 1960s, engineering was a very lucrative profession. “All my friends were doing civil engineering, so I did it too,” he says.

Mujumdar completed his master’s degree at the Indian Institute of Technology, Roorkee, at the age of 21. He imagined that he would spend his career building massive bridges, dams, and canals in his fast-growing home country, and his first job was with a design-build company in New Delhi, where he spent three years designing and building long-span bridges in prestressed concrete. Soon, though, he was eager to see more of the world.

He landed a job in the United Kingdom with Donovan Lee, inventor of the Stressteel system. He sat for the 16-hour exam to join the Institution of Structural Engineers and was excited to learn that he had passed. “It was very prestigious,” he says, but in the end he wasn’t allowed to join because he was only 24, one year shy of the minimum age.

Fed up with the bureaucracy in the United Kingdom, Mujumdar left London for Canada and landed a job in Montreal with a precast concrete manufacturer responsible for constructing Habitat 67, the first total-precast concrete housing complex designed by Moshe Safdie. The project won many awards and became a historical landmark. “We worked 24-7 on that project. It was very demanding,” he says.

Shortly after the project was finished in 1967, the economy in Montreal sank, so Mujumdar made his way to the United States, where he worked for Modular Constructors Inc. as the general manager and submitted a proposal for the Operation Breakthrough competition hosted by the Department of Housing and Urban Development to encourage innovation in creating mass-produced housing. “We didn’t win,” he says, but the firm went on to produce precast concrete single and double tees and other precast concrete elements for the construction industry.

Happy with his location, Mujumdar stayed in the United States for the rest of his career. Over the decades he designed numerous structures in precast concrete, nationally and internationally, and held roles as CEO, president, and partner in many

large engineering firms; he was named chief of operations for the Division of the State Architect for the State of California; and he was the natural hazards director for the Engineering Research Center program at the National Science Foundation (NSF).

Mujumdar also received many awards, including the Medal for Excellence in Engineering from the World Federation of Engineering Societies in 2019, the Kenneth Andrew Roe Award from the American Association of Engineering Societies in 2016 for effectively promoting unity among the engineering societies, the NSF Director’s Award for Collaboration Integration in 2009, and the NSF Outstanding Public Service Award in 2008. In 1999, he received special recognition from California’s governor “for making a significant contribution to enhancing seismic safety” in the state.

Mujumdar joined PCI in 1966 while still working in Canada. Over the years he has served on many committees, including one of the first Blue Ribbon Review Committees for the *PCI Design Handbook: Precast and Prestressed Concrete*. He currently sits on the PCI Seismic Committee and the ACI Concrete Research Council. He also chaired the ACI International Publications and Precast Concrete Committees.

“PCI was instrumental to my career,” he says. His involvement in PCI helped him expand his network and hone his expertise in the industry, which later led him to teach courses at various universities. “Anyone who’s doing anything with precast concrete was a member of PCI,” he says. “It had a big influence on the growth of the industry.”

Mujumdar retired in 2009 but continues to do consulting work and teaching to improve the resilience and sustainability of new structures, trends he sees as the future of precast concrete. “We can help society through better engineering to create more resilient structures that can withstand any natural disaster,” he says.

Through his classes and consulting work, Mujumdar encourages future engineers to focus on creating total-precast concrete solutions. “You can’t just think about the individual panels, hollow-core slabs, or shear walls. You have to design a whole system,” he says. He believes total-precast concrete designs lead to more resilient structures but they require project leaders with enough vision to bring together the welders, builders, and other trades. “Right now, these industries lack that interconnection.”

If PCI can get everyone working together, he says, it could transform the way infrastructure in this country is built. **D**