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For Immediate Release

NC State University Students Win 2024 PCI Big Beam Competition

CHICAGO, September 12, 2024 – North Carolina State University has won the Precast/Prestressed Concrete Institute’s (PCI) 2024 Engineering Design Competition, also known as the Big Beam competition. The national competition, in its 24rd year, teaches college students important structural engineering skills in an applied learning environment that will benefit them in their future professions.

Teams of students and a faculty advisor design, build, and test a 20-foot, precast, prestressed concrete beam. Local PCI-certified precast concrete producers mentor and fabricate the beams for the teams. Entries are judged on a variety of criteria, including the beam’s load-resisting performance in tests that simulate real-life conditions structural building and infrastructure components must endure to ensure life safety, as well as the quality of their analysis and reports, and a video overview of their project.

“Big Beam provided a platform for us to bridge the gap between theoretical knowledge acquired in school and its practical application in the precast industry,” said Sam Valmassoi, a member of the winning team. “I was particularly excited about our use of ultra-high-performance concrete (UHPC) in our design, and the unique challenges and opportunities that arose from using this material.”

“The Big Beam competition is the foundation of PCI’s mission to support and promote student education initiatives,” said Bob Risser, PCI president and CEO. “The future of the precast, prestressed concrete industry is in good hands, judging by all of the entries. Congratulations to the North Carolina State University team and all of the students who participated.”

The 2023 PCI Big Beam competition was sponsored by ALP Supply and *ASPIRE* magazine.



Overall Results

First Place: North Carolina State University

Faculty Advisor: Gregory Lucier

Student Team: Taylor Brodbeck, Allison Ebbert, Mohammad Qambar, Sam Valmassoi

PCI Producer: Tindall Corporation

Second Place: Lehigh University

Faculty Advisor: Clay Naito

Student Team: Ryan Bruce, Ryder Henry, Peter Misiewicz, Taryn Ross, Kate Springsteen

PCI Producer: Northeast Prestressed Products

Third Place: The University of Alabama – Team 1

Faculty Advisor: Sriram Aaleti

Team Members: Tu Luong, Chas Sanford, Bobby Bryant, Austin Castleberry, Xi Chen, Bryce Payne

PCI Producer: GATE Precast, Monroeville, Alabama

Remaining finishers in alphabetical order:

The University of Alabama- Team 2

Faculty Advisor: Dr. Sriram Aaleti

Team Members: Abdulmaliq Alawode, Anupama Kamani, Archana Kumari, Eunice Mendes,

Rodrigues Farias Mello, Kunal Mohinderu, Shubham Sharma Gyawali

PCI Producer: GATE Precast, Monroeville, Alabama

University of Minnesota - Duluth

Faculty Advisor: Dr. Abdullah Haroon

Team Members: Justin Entinger, Kate McCabe, Jensen Rice, Mehdi Faeli

PCI Producer: Molin Concrete Products

Northern Arizona University

Faculty Advisor: Ben Dymond

Team Members: Mariah Boler, Kristina Finley-Encinas, Jenna Hays

PCI Producer: EnCon AZ LLC, dba Tpac

Old Dominion University

Faculty Advisor: Michael Seek, PhD., PE.

Team Members: Chris Shelton, Brendan Fritz, Jonah Joaquim, Zack Bayliff

PCI Producer: Coastal Precast Systems (Chesapeake, VA)

University of Western Ontario

Faculty Advisor: Maged A. Youssef, P. Eng

Team Members: Jeremy Dodd, Malcolm Ahsan, Amer Sabsabi, Emma Schnurr, Francesca Devine, Timothy

Kerkhoff, Abdelmoneim Elnaggar

PCI Producer: Stubbe's Precast

Keith Kaufman Award for Best Report

Judges consider the overall presentation of the report when deciding the best report winner. In addition to verifying the report contains all the requested sections and required signatures, judges look for clear presentation of data, professional look and formatting, and an overall well-written report.

Lehigh University

Faculty Advisor: Clay Naito

Student Team: Ryan Bruce, Ryder Henry, Peter Misiewicz, Taryn Ross, Kate Springsteen

PCI Producer: Northeast Prestressed Products

Best Video

Requirements include a video taken of the precast concrete beam being tested. Teams are encouraged to be as creative as they wish when preparing the final video. Videos with a storyline related to the big beam competition are clear standouts and the judging committee may elect an entry to receive a best video award. To see all of the student videos, please visit [PCI's Big Beam Channel](#) on YouTube.

Lehigh University

Faculty Advisor: Clay Naito

Student Team: Ryan Bruce, Ryder Henry, Peter Misiewicz, Taryn Ross, Kate Springsteen

PCI Producer: Northeast Prestressed Products

Photo Caption: The team from North Carolina State University won the 2024 PCI Big Beam competition. From left to right are Sam Valmassoi, Taylor Brodbeck, Allison Ebbert and Mohammad Qambar.

About PCI

Founded in 1954, The Precast/Prestressed Concrete Institute (PCI) is a technical institute for the precast concrete structures and systems industry. PCI develops maintains, and disseminates the Body of Knowledge for the design, fabrication, and construction of precast concrete structures and systems. PCI develops consensus base standards, industry handbooks, quality assurance programs, certification, research and development projects, design manuals, continuing education and periodical publications. PCI members include precast concrete producers, erectors, suppliers, professional engineers and architects, educators, students, and industry consultants who complement the wide range of knowledge of precast concrete. For additional information, visit pci.org/howprecastbuilds.