

Research for all

Andrew Osborn and Jared Brewé

This is the first column in a regular series that will highlight the past and present activities of PCI's Research and Development Council. The name says it all, the focus of the R&D Council is to target research that contributes to the development of precast concrete for the benefit of PCI's membership.

The PCI Committee on Industry Research was established in 1973 for the development and implementation of PCI research activities required to meet long-term industry needs. Since its inception, PCI has funded research that has improved design and construction with precast and prestressed concrete, including contributions to the development of rational design procedures incorporated into the American Concrete Institute's *Building Code Requirements for Structural Concrete (ACI 318) and Commentary (ACI 318R)*, the *PCI Design Handbook: Precast and Prestressed Concrete*, and model building codes. More than 150 fellowships have been awarded since the first two fellowships were awarded in 1971. Numerous specially funded and cooperative research projects have been completed.

PCI dedicates about 5% to 8% of its dues to fund research, but the value provided is representative of much more than this portion of revenue. PCI research funds are leveraged heavily in the following ways:

- PCI producer members donate raw materials, fabricated products, funds, and time to research projects.
- Universities often contribute through matching funds, complimentary equipment use, or waived university overhead.
- Government agencies—such as the National Science Foundation, National Cooperative Highway Research Project, National Institute of Standards and Technology, Federal Highway Administration, state transportation departments, the Department of Energy, and many others—often partially fund projects. In these cases, the specific benefit to PCI is targeted.
- Partnerships with private funding agencies, such as the Charles Pankow Foundation, the ACI Foundation, and the Concrete Reinforcing Steel Institute Foundation, provide individual contributions. Through PCI's committee structure, individual members contribute thousands of

hours serving as advisors and reviewers to research projects every year.

PCI's research focuses on providing solutions to current industry needs but is also forward looking. The recently completed project on ultra-high-performance concrete (UHPC) is an example. UHPC is not currently widely used in precast concrete products, but its potential applications and future use cannot be ignored. Future adoption can only be accomplished if we first develop information about the fundamental behavior of this material and demonstrate to producer members that they can fabricate products using predominantly locally sourced ingredients.

Future research corner articles will highlight past research projects and discuss how they have transformed and affected our industry.

We also wish to thank previous contributors to the success of the PCI research program, including Roger Becker, former PCI managing director of R&D and vice president; Paul Johal, former PCI research director; and Dan Jenny, former PCI research director and vice president, for their dedicated service and many contributions to the industry. Finally, we wish to acknowledge the hundreds of past Research and Development Council members and, in particular, the past council chairs for their service:

Greg Force, Tindall Corp. (2018–2022)

Richard Miller, University of Cincinnati (2014–2018)

Harry Gleich, Metromont (2010–2014)

Doug Sutton, Purdue University (2005–2009)

Tom D'Arcy, Consulting Engineers Group (2000–2004)

Helm Wilden, H Wilden Enterprises (1997–1999)

John M. Hanson (1993–1996)

Fattah Shaikh (1986–1992)

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Have a research idea?

We urge readers to send in their research ideas to Jared Brewe, PCI's vice president of technical services, at jbrewe@pci.org. 