

## Concrete Research Council Announces Shear Strength Research Product

The ACI Foundation's Concrete Research Council (CRC) announced the completion of a new research product: "CRC 80: Reexamination of Punching Shear Strength and Deformation Capacity of Corner Slab-Column Connection." This study examined the effects of slab flexural reinforcement on the punching shear strength and deformation capacity of corner slab-column connections without shear reinforcement. Min-Yuan Cheng, Assistant Professor at National Taiwan University of Science and Technology, served as the project's principal investigator. The project was sponsored by the CRC and the Ministry of Science and Technology, Taiwan.

"Punching shear strength and deformation capacity of slab-column connections have been extensively studied previously," stated Cheng. "However, several controversial issues still exist for the applications of the code provisions, particularly on the corner connections. This research dives deeper into this area. The findings from our testing combined with previous research will help to move the concrete industry forward."

This study included tests of six corner slab-column specimens under combined gravity loading and lateral displacement reversals. Primary test parameters included slab flexural reinforcement ratio and gravity shear ratio (the quotient of the direct shear due to gravity load and the nominal punching shear strength). Results from the new study and past studies indicate that punching shear strength and deformation capacity per ACI 318-14 are not conservative for corner slab-column connections. The researchers address this by proposing a new shear strength model. More information on this and other ACI Foundation-sponsored research, including final reports, can be found at [www.acifoundation.org/research](http://www.acifoundation.org/research).

## ACI Foundation Awards

The ACI Foundation honored three ACI members with awards for their outstanding contributions in research and innovation.

**W. Jason Weiss**, FACI, Oregon State University, received the Robert E. Philleo Award, given in recognition of the advancement of concrete technology through student advising, exemplary service to the profession, and innovative research on shrinkage-reducing admixtures, internal curing, material transport characterization using the formation factor, freezing-and-thawing modeling, and deicing salt damage.



Crack pattern in corner slab-column connection at 1.25% drift (Fig. 4.43 from Final Report to the ACI Foundation: CRC 80)

**Conrad Paulson**, FACI, Wiss Janney Elstner Associates, Inc., is the recipient of the Arthur J. Boase Award, given in recognition of exceptional work leading to the development and acceptance of high-strength reinforcing steel for concrete construction and its adoption into codes and standards.

**Michael M. Sprinkel**, FACI, Virginia Transportation Research Council, was chosen for the Jean-Claude Roumain Innovation in Concrete Award in recognition of significant research and implementation of innovative technologies in concrete materials, particularly development of epoxy and polymer overlays for bridge deck protection and other construction innovations that have enhanced the concrete restoration and repair industry.



**Ann Daugherty** is the Director of the ACI Foundation, where we strive to improve the concrete industry by funding and fostering critical research and new technologies, and by integrating the younger generation into our industry. For more information, contact [ann.daugherty@acifoundation.org](mailto:ann.daugherty@acifoundation.org).

Have an idea for research that will benefit the concrete industry or support an ACI document or code change? Visit [www.acifoundation.org/research/suggest-research.aspx](http://www.acifoundation.org/research/suggest-research.aspx) and fill out an online concrete research need form.