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Solid Research

University of Dayton

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NEWS

Tuesday June 9, 2015

Solid Research

Assistant civil engineering professor Elias Toubia received an outstanding paper award at The Masonry Society's 12th North American Conference in Denver last month.

The paper, written with former student James M. Lintz, currently a structural engineer at LJB Inc., explains the interaction between loads on brick facings and wood walls.

"Our results showed how the load shifts from the wood wall through rows of spring-like ties to the brick facing," Toubia said. "The way a load shifts can significantly affect the design and its safety."

"Therefore, these findings about how these walls share loads can help engineers build better structures without the danger of the brick facing sliding or collapsing."

Toubia researches innovative composite structural design systems, structural materials and experimental testing, behavior of reinforced concrete and masonry structures and fiber-reinforced concrete.

He also has worked with a local company to develop watertight, fireproof, rapid assembly shelters to transport personnel on hovercraft decks. These composite shelters are similar to the ones used on U.S. Navy hovercraft that evacuated Americans from Beirut in 2006, according to Toubia.

The University of Dayton ranks second among all U.S. colleges and universities in federally funded materials research according to the latest National Science Foundation statistics.

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