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- Energy
- Consumer Health Daily
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## NEWSTRACK - SCIENCE



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### Scientists work to build a better bridge

BUFFALO, N.Y., May. 10 (UPI) -- U.S. scientists are designing bridges that "dance" during earthquakes, making the structures the safest and least expensive to build, retrofit and repair.

[University of Buffalo](#) researchers recently tested the first seismic design methodology for bridge towers that respond to ground motions by literally "jumping" a few inches off the ground.

The researchers said their new methodology allows steel truss towers that support bridge decks to be built or retrofitted at less expense than conventional approaches, where each leg of a tower is strongly anchored to its footing.

"Our approach is unconventional, counterintuitive," admits Professor Michel Bruneau, who developed the new technology with doctoral candidate Michael Pollino.

"With an earthquake, conventional wisdom dictates that the most important thing is to anchor the bridge tower," Bruneau explained. "The mass wants to overturn, so you have to tie it down."

To do that, he said the tower must be anchored with a very expensive foundation system, which in turn, subjects it to the full force of the earthquake.

"In this scenario, something usually has to yield," he says. "By letting the tower rock, we're significantly reducing the overturning force."

The research is funded by the U.S. Federal Highway Administration.

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