



4220 King Street
Alexandria, VA 22302
P: (703) 379-2480
F: (703) 379-7563

www.americangeosciences.org

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FOR IMMEDIATE RELEASE

April 23, 2014

Contact: Megan Sever
msever@earthmagazine.org

EARTH Magazine:

Faking quakes at full scale: Giant shake tables simulate earthquakes to make buildings safer

Alexandria, Va. - On a muggy day in mid-July 2009, a lone seven-story condominium complex northwest of Kobe, Japan, was violently shaken by an earthquake. Onlookers watched the 23-unit, wood-frame tower sway and bounce while, inside the building, furniture toppled and plates clattered to the floor. No one was hurt during the highly localized event and there was only minimal damage, in part because the building's wooden skeleton had been augmented to better resist earthquake shaking, but also because the whole event — from the seismicity to the partially furnished building — was just a test.

It was the largest seismic experiment ever conducted on a full-size building, and it was carried out on the world's biggest earthquake-simulating shake table. Several other research facilities also have their own large shake tables, on which engineers are constructing and shaking full-size buildings to learn how to make them safer during earthquakes.

Learn more about the massive shake tables that make full-scale seismic testing a reality in the May issue of EARTH Magazine: <http://bit.ly/1rkA8cX>.

For more stories about the science of our planet, check out EARTH Magazine online or subscribe at www.earthmagazine.org. The May issue, now available on the digital newsstand, features stories on how GPS has revolutionized seismic research, how mercury pollution in the Arctic is linked to spring sea-ice cycles, and how much methane scientists have found occurring naturally in New York groundwater, plus much, much more.

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Keep up to date with the latest happenings in Earth, energy and environment news with EARTH magazine online at: <http://www.earthmagazine.org>. Published by the American Geosciences Institute, EARTH is your source for the science behind the headlines.

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