



The Natural Hazards Engineering Research Infrastructure (NHERI) at the University of Texas Mobile Shaker experimental facility provides access to a specialized fleet of large, dynamic-shaker vehicles and advanced vibration sensing instrumentation. Unique in the world, these mobile shakers enable researchers to study and develop novel, in-situ testing methods for evaluating the performance of existing infrastructure and for optimizing the design of future infrastructure, helping U.S. communities become more resilient to earthquakes and other natural hazards.



T-Rex mobile shaker

**ADVANCING EARTHQUAKE ENGINEERING & INFRASTRUCTURE RESILIENCE**

**SHARED-USE RESOURCES FOR U.S. GEOTECHNICAL & STRUCTURAL ENGINEERING RESEARCH**

- 5 specialized mobile shaker vehicles
- 2D and 3D subsurface imaging
- Characterizing liquefaction resistance of soils
- Structural health monitoring and soil-foundation-structure interaction studies for buildings and bridges



**ADVANCED DATA ACQUISITION SYSTEMS**



Fiber optic distributed acoustic sensing (DAS)



Nanometrics Trillium compact broadband seismometer



Smart Solo



Our users have secured research funding from multiple federal agencies, all of whom have benefited from the U.S. National Science Foundation's long-term investment in the NHERI at University of Texas Mobile Shaker facility.



**NHERI Mobile Shakers making real-world impacts**



**MAPPING THE KILAUEA VOLCANO MAGMA SYSTEM**

Assisting the USGS, the Mobile Shaker team deployed T-Rex as a source of controlled seismic vibrations for 3D imaging the structure and magma system beneath the summit of Hawaii's Kilauea Volcano, one of the world's most active volcanoes. (EAR-2218645)



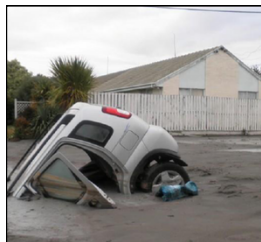
**NOVEL, NON-DESTRUCTIVE STRUCTURAL MONITORING**

The Mobile Shaker team develops experimental methods for evaluating complex soil-foundation-structure-interaction in the field. In Hamilton Township, NJ, T-Rex performed large-amplitude, forced-vibration tests on an overpass bridge, demonstrating a non-damaging method for assessing public safety. (CMMI-1650170)



**GROUND ASSESSMENTS AT CHAMPLAIN TOWERS COLLAPSE SITE**

The Mobile Shaker team joined NIST forensic engineers to assess soil wave attenuation at the Champlain Towers site, where 98 people lost their lives in a high-rise condominium collapse. (CMMI-2037900)



**IMPROVING LIQUEFIABLE SOILS NEAR OREGON'S ENERGY HUB**

A multi-university effort is using Microbially Induced Desaturation (MID) technology to mitigate dangerously liquefiable soil near Portland's Critical Energy Infrastructure hub, a liquid natural gas site. The Mobile Shaker team provides validation for this ongoing research. (CMMI-1935670 / 1935774)



**LEARN MORE**  
Visit our facility in Austin, Texas, or online, and discover how NHERI Mobile Shakers can assist your investigations.



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