

Department of Civil and Environmental Engineering
Seminar Announcement

**“Field Evaluation of Various Ground-Improvement
Methods Intended to Inhibit Earthquake-Induced Soil
Liquefaction”**

Presented by

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Abstract:

The 2010-2011 Canterbury Earthquake Sequence (CES) in the Christchurch, New Zealand, region was responsible for 185 fatalities and an economic loss of NZ \$40 billion (approximately 20% of New Zealand's GDP). Much of the devastation wrought by the earthquakes was caused by extreme levels of liquefaction-induced damage to structures with shallow foundations. In response to this disaster, the New Zealand Earthquake Commission (EQC) funded a large study known as the Ground Improvement Trials to evaluate and identify shallow ground improvement methods that are not only effective at increasing the soil's resistance to soil liquefaction, but are also cost effective and practical to build for lightweight structures. These ground improvement methods included: (1) Rapid Impact Compaction, (2) Rammed Aggregate PiersTM, and (3) Low-Mobility Grout Columns. These three ground improvement methods were evaluated in situ and at full scale using excavation trenching, cone penetrometer testing (CPT), direct-push crosshole seismic testing (DPCH), and shake testing with a large triaxial vibroseis truck named T-Rex.

Tuesday, February 13, 2018
12:00 – 1:00 pm
2310 Newmark