

# *Performance of Structures in the February 22, 2010 Christchurch Earthquake*



*Presented by Dr. Roberto Leon*

## Abstract

Widespread failures of unreinforced masonry buildings and severe soil liquefaction across the city of Christchurch, along with the collapse of a few reinforced concrete buildings, made the February 21, 2011 earthquake a unique event. The 5 km shallow depth of that earthquake's hypocenter, at a horizontal distance of roughly 10km from the city's Central Business District (CBD) resulted in ground excitations exceeding the design basis by as much as 100% over some period ranges. This presentation will discuss the performance of URM, RC and steel structures, with emphasis on lessons for USA practice, as well as personal impressions of the rescue and recovery phases of the work. Dr. Leon arrived in Christchurch shortly before the earthquake and spent three months there.