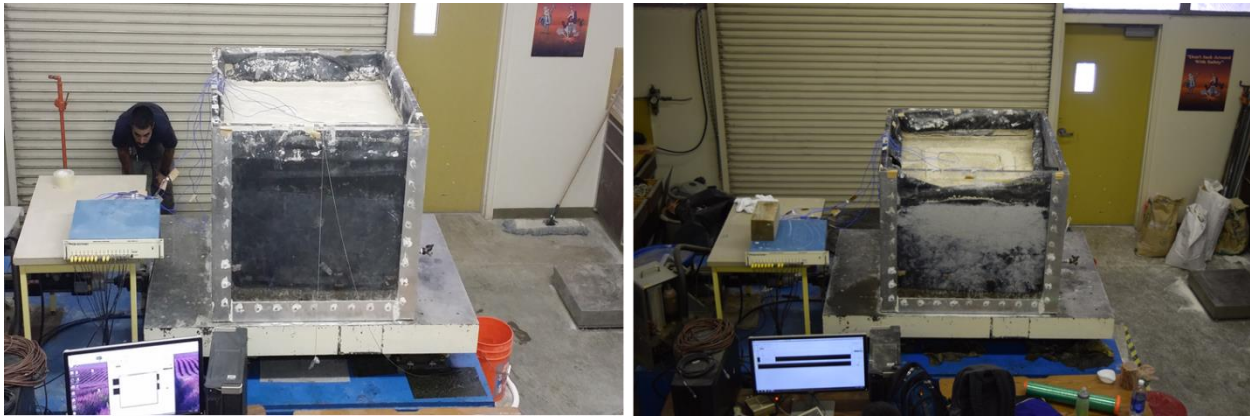


Reducing Impact of Earthquake Ground Shaking on Infrastructure



The shaking intensity of ground surface amplifies by 4 to 5 times when a seismic wave travels through soft clayey soil. This requires a heavy construction cost for a building that is planned to be constructed on that type of soil. In this research, a reliable soil modification technique will be investigated to reduce seismic ground vibration. A soft clay soil layer will be created in a 4 ft tall Plexiglas Model Box and will be shaken with different intensities of simulated earthquake motions before modifying the soil and after modifying the soil with soil-cement mixture panel. A model building will be constructed on top of the soft ground to see the reduction in shaking of building with ground modification. It has been estimated that construction cost can be reduced by 20-30% by modifying the soil with this technique. In summer 2015 and 2016, 10 international students from Brazilian government funded BSMP program, and 12 community college and high school students worked in this project and co-authored 10 publications with professor and students of CSU Fullerton.