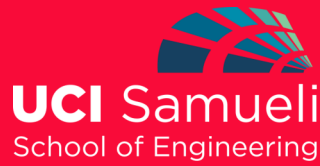




Presented By:
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Department of
Civil and Environmental
Engineering

Civil Engineering *Seminar Series*

Thursday, February 18th, 2016
MDEA
2:00PM - 3:00PM

The Role Of Urban Development Patterns In Mitigating The Effects Of Tsunami Run-Up

This NSF-sponsored RAPID grant study sought to understand the relationship between urban development patterns and the extent of physical damage caused by widespread tsunami run-up. The 11 March 2011 Tohoku, Japan earthquake caused significant damage all along the northeastern coast of Japan, with almost all of it resulting from tsunami waves that reached heights in excess of 20 meters. In order to understand how the built environment can affect the performance of communities in a tsunami, we studied twelve communities in the Miyagi/Chiba/Ibaraki Prefectures – areas ranging from minor to moderate damage to complete devastation. Our central research question was: Can the *urban topology* of a community mitigate the effects of a tsunami by isolating the more damaging surge effects to a few well-designed and well-placed buildings, thus limiting damage to “protected” buildings to just rising water effects?



Mr. Eguchi is President and CEO of ImageCat, Inc., a risk management company specializing in the development and use of advanced technologies for risk assessment and reduction. Mr. Eguchi has over 30 years of experience in risk analysis and risk management studies. He has directed major research and application studies in these areas for government agencies and private industry. He has authored over 300 publications, many of them dealing with the seismic risk of utility lifeline systems and the use of remote sensing technologies for disaster response. He currently serves or has served on several Editorial Boards including the *Natural Hazards Review* published by the American Society of Civil Engineers and the Natural Hazards Research and Applications Information Center, University of Colorado; the *Journal on Uncertainties in Engineering Mechanics* published by Resonance Publications, Inc.; and the Earthquake Engineering Research Institute's *JOURNAL SPECTRA*.

