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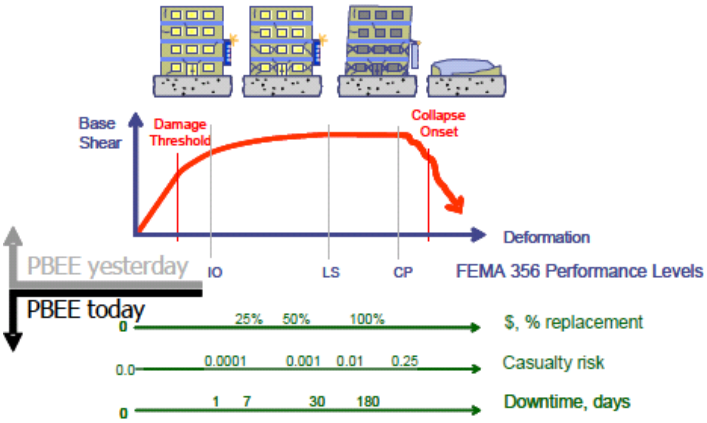
January Seminar

NEXT GENERATION PERFORMANCE-BASED EARTHQUAKE ENGINEERING: ATC-58 APPROACH

Date:	January 18, 2012
Venue:	Room C180, UBC Robson Square, 800 Robson Street, Vancouver
Time:	Refreshments 6:00 p.m. Presentation 6:30 p.m.
Presenter:	Dr. Tony Yang, UBC Department of Civil Engineering
Cost:	Free for SEABC Members. $75 + HST for non-members
	Pre-registration is required: www.seabc.ca/performance

Next generation performance-based earthquake engineering aims to quantify performance of facilities using metrics that are of immediate use to both engineers and stakeholders. The method quantifies the seismic risk for the facility in terms of financial loss, down time and casualties, and consistently accounts for the uncertainties in the seismic hazard, structural response, resulting damage, and repair costs. The outcome will allow the building owners to make an informed risk-based management decision, and allow structural engineers to design new and innovative structural systems more efficiently and cost effectively.



The proposed procedure is adopted by the Applied Technology Council (ATC-58) to represent the next generation performance-based seismic design procedures for new and existing buildings in the United States. The procedure is consistent with common building design, construction, and analysis practices and it can be readily adopted in structural engineering practice today.

Prof. Yang earned his Ph.D. degree at the University of California, Berkeley. His expertise focuses on advanced numerical simulation and experimental testing including hybrid simulation testing technology. He has developed the next-generation performance-based design guidelines (adopted by the Applied Technology Council, the ATC-58 research team) in the United States; developed risk-based simulation models for countries in the North and South America and the Global Earthquake Model (GEM) for the counties in Southeast Asia. Prof. Yang has been actively involved in using novel technologies, such as base isolation systems and dampers, to improve structural performance. He has worked with leading structural engineering firms to peer-review landmark buildings, including the some of the tallest structures in the West Coast of United States. Prof. Yang is an active member of the Tall Buildings Initiative Project, funded by the Pacific Earthquake Engineering Research Center, to develop seismic design guidelines for tall buildings.