

**Department of Structural Engineering
University of California, San Diego
SE 290 Seminar**



James O. Malley
Structural Engineering
Degenkolb Engineers

**“Characteristics and Seismic Performance of Tall Buildings Estimated with
Nonlinear Response History Analyses”**

Monday, October 29, 2018

12:00 pm - 12:50 pm, Pepper Canyon Hall, Room 122

<https://structures.ucsd.edu/seminars>

Abstract

Tall buildings (over 30 stories) have been designed on the West Coast of the U.S. for about the last 60 years. The skylines created by these tall buildings often help to define many of our major cities. Prior to the mid 1990's, the primary system used was a steel moment resisting frame. The design processes, configuration and detailing practices for these buildings transitioned continuously, with a major change of engineering practice after the 1994 Northridge Earthquake. The large number of high-rise residential buildings constructed during the last fifteen or so years have primarily been of reinforced concrete core shear wall construction, largely to accommodate desired architectural features. Since the present building codes restrict the height of shear wall only construction to 160 feet in locations of high seismic demand, these buildings have been designed using Performance Based Earthquake Engineering techniques to demonstrate seismic performance equivalent to that intended by the building code. This presentation will discuss the potential seismic performance of both “pre-Northridge” steel moment frame and reinforced concrete core shear wall high-rise construction based on the results of nonlinear response history analyses of numerous buildings. Lessons learned and potential trends will be highlighted.

Biography

James O. Malley, S.E., is a Senior Principal with Degenkolb Engineers. He received both his B.S. and M.S. degrees from the University of California at Berkeley. Mr. Malley has over 35 years of experience in the seismic design, evaluation and rehabilitation of building structures. He was one of the authors of the PEER Tall Buildings Initiative “Guidelines for the Performance-Based Seismic Design of Tall Buildings”. Mr. Malley is Chair of the AISC Specifications Committee and the Past-Chair of the AISC Seismic Subcommittee. He was named the 2010 T.R. Higgins Lectureship Award winner for his work on the AISC Seismic Provisions, and in 2012 was given presented with a Lifetime Achievement Award by AISC. He was President of SEAONC in 2000-2001.

*Sponsored by Professor Benson Shing
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