

Name, rank: Andrew S. Whittaker, Professor

Contact information:

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Other appointments and titles:

Director, MCEER
Director, Institute of Bridge Engineering
Director, Structural Engineering and Earthquake Simulation Laboratory
Registered Civil and Structural Engineer, California

Educational background:

Ph.D., Civil Engineering, University of California, Berkeley (1988)
M.S., Civil Engineering, University of California, Berkeley (1985)
B.S., Civil Engineering, University of Melbourne (1977)

Honors and awards (selected):

Fellow, Structural Engineering Institute; Fellow, American Society of Civil Engineers; Fellow, American Concrete Institute; ASCE Walter P. Moore Award; ASCE Stephen D. Bechtel Jr. Energy Award.

Research areas:

Structural engineering, earthquake engineering, blast engineering, performance-based engineering

Courses taught:

Reinforced Concrete
Earthquake Engineering and Structural Dynamics
Blast Engineering
Capstone Design
Introduction to Design

Current and recent research:

Performance-based design of squat reinforced concrete and composite shear walls
Characterization of effects of detonations of high explosives
Seismic performance assessment in a dense urban region
Seismic isolation of nuclear power plants

Testing and development of regulatory requirements for steel-plate concrete SC structures
Seismic isolation of advanced reactors with considerations of fluid-structure interaction

Selected publications:

Huang, Y.-N., A. S. Whittaker and N. Luco, "Maximum spectral demands in the near-fault region," *Earthquake Spectra*, Vol. 24, No. 1, pp. 319-341, June 2008.

Huang, Y.-N., A. S. Whittaker, and N. Luco, "A seismic risk assessment procedure for nuclear power plants, (I) methodology," *Nuclear Engineering and Design*, Vol. 241, pp. 3996-4003, September 2011.

Kumar, M., A. S. Whittaker and M. C. Constantinou, "An advanced numerical model of elastomeric seismic isolation bearings," *Earthquake Engineering and Structural Dynamics*, Volume 43, No. 13, pp. 1955-1974, October 2014.

Luna, B., J. Rivera, and A. S. Whittaker, "Seismic behavior of low aspect ratio reinforced concrete shear walls," *ACI Structural Journal*, Vol. 112, No. 5, pp. 593-603, September-October 2015.

Shin, J., A. S. Whittaker, and D. Cormie, "Incident and normally reflected overpressure and impulse for detonations of spherical high explosives in free air," *Journal of Structural Engineering*, Vol. 141, No. 12, December 2015.

Coleman, J., C. Bolisetti, and A. S. Whittaker. "Time-domain soil-structure interaction analysis of nuclear facilities," *Nuclear Engineering and Design*, Vol. 298, pp. 264-270, March 2016.

Kumar, M., A. S. Whittaker, R. P. Kennedy, J. J. Johnson and A. M. Kammerer. "Seismic probabilistic risk assessment for seismically isolated safety-related nuclear facilities," *Nuclear Engineering and Design*, Vol. 313, pp. 386-400, March 2017.

Huang, Y.-N., A. S. Whittaker and R. O. Hamburger, "A simplified analysis procedure for performance-based earthquake engineering of buildings," *Engineering Structures*, Vol. 150, pp. 719-735, December 2017.

Yu, C.-C., C. Bolisetti, J. Coleman, B. Kosbab, and A. S. Whittaker, "Using seismic isolation to reduce risk and capital cost in safety-related nuclear facilities," *Nuclear Engineering and Design*, Vol. 326, pp. 268-284, January 2018.