

Exponent®
Engineering & Scientific Consulting

Cristian Acevedo, Ph.D., P.E.

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Professional Profile

Dr. Acevedo specializes in performance-based analysis and design, structural damage evaluation, earthquake engineering, nonlinear structural analysis, and structural dynamics. He has experience with design of steel, cold-formed steel, aluminum, concrete, and wood structures. Dr. Acevedo has experience evaluating building damage due to wind, earthquakes, rain, snow/ice, wood decay, corrosion, tree impact, and ground movement. He also has experience with laboratory testing of components and structures.

Dr. Acevedo has developed models to quantify risk associated with extreme wind impacts on overhead electric power lines. He has also developed models to quantify deterioration of overhead electric structures and conductors. Dr. Acevedo helped develop risk models and visualization tools used by California electric utilities for decisions related to Public Safety Power Shutoff (PSPS) and Climate Adaptation Vulnerability Assessment (CAVA).

Dr. Acevedo has extensive knowledge on the design of residential light-frame structures for improved seismic performance. He investigated the effects of enhancing the lateral strength and stiffness of wood light-frame structures through large scale quasi-static and dynamic testing. In addition, he developed nonlinear finite element models and conducted performance-based earthquake engineering analysis.

Prior to joining Exponent, Dr. Acevedo assisted in teaching graduate level structural engineering courses at Stanford University. He was also an intern at a structural engineering firm working on multi-unit wood residential structures.

Academic Credentials & Professional Honors

Ph.D., Civil and Environmental Engineering, Stanford University, 2018

M.S., Civil and Environmental Engineering, Stanford University, 2013

B.S., Civil Engineering, Florida International University, 2011

National Science Foundation Graduate Research Fellow, 2011-2016

Ronald E. McNair Post Baccalaureate Fellowship 6th Cohort, 2009-2011

Department of Energy & FIU Science and Technology Workforce Development Initiative Fellowship, 2008-2011

Professional Affiliations

Earthquake Engineering Research Institute (Member)

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Languages

Spanish

Publications

Acevedo C, Swensen S, Jampole E, Deierlein G, Miranda E, Fell B. Comparing the seismic performance of unibody and conventional construction of a two-story wood-frame house. Proceedings of the 11th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, California, 2018.

Acevedo CA, Deierlein GG, Miranda E, Fell B, Swensen SD, Jampole EA. Development of a unibody system to improve the performance of lightweight residential wood structures. Proceedings of the 16th World Conference in Earthquake Engineering, 16WCEE, Santiago, Chile, 2017.

Jampole EA, Deierlein GG, Miranda E, Fell B, Swensen SD, Acevedo CA. An economic sliding isolation system for residential light frame structures. Proceedings of the 16th World Conference in Earthquake Engineering, 16WCEE, Santiago, Chile, 2017.

Swensen S, Deierlein G, Miranda E, Fell B, Acevedo C, Jampole E. Performance-based seismic assessment of a wood-frame house with strength and stiffness enhancements. Proceedings of the 16th World Conference in Earthquake Engineering, 16WCEE, Santiago, Chile, 2017.

Jampole E, Deierlein G, Miranda E, Fell B, Swensen S, Acevedo C. Full scale dynamic testing of a sliding seismically isolated unibody house. Earthquake Spectra 2016.

Swensen S, Acevedo C, Jampole E, Miranda E, Deierlein G, Hopkins A, Fell B. Toward damage free residential houses through unibody light-frame construction with seismic isolation. Proceedings, SEAOC 2014 83rd Annual Convention, Indian Wells, CA, 2014.

Jampole E, Swensen S, Acevedo C, Fell B, Miranda E, Deierlein G. Testing a low cost sliding isolation system for light frame structures. Proceedings, Ten Successful Years of Research within NEES@Berkeley, RFS, Richmond, CA, 2014.

Lima, N., Acevedo, C., Aranda, D., Rivera, J., Polo, E., Varona, J., Lagos, L., Serrato, M. Thermal analysis of a special grout mixture for in-situ decommissioning, 2011 Waste Management Conference, Phoenix, AZ, 2011

Acevedo, C., Creagh, A. Seismic vulnerability of non-special boundary element of shear wall under axial force reversals. Quake Summit 2010 NEES & PEER Annual Meeting, San Francisco, CA, 2010

Acevedo, C., Serrato, M. Determining the effects of radiation on aging concrete structures of nuclear reactors. SRNL-STI-2010-00004. 2010 Waste Management Conference, Phoenix, AZ, 2010

Presentations

Acevedo, C. Trono W. Risk is in the forecast: Assessing future overhead electric power line asset risk. T&D World 2021 Webinar, April 14, 2021

Acevedo, C. Shake table test of a two-story unibody house. 2016 PEER Annual Meeting, Berkeley, CA, January 28, 2016

Acevedo, C. Experimental tests of large-scale unibody room specimens under quasi-static loading. Ten Successful Years of Research within NEES@Berkeley, RFS, Richmond, CA, May 28, 2014