

Exponent®
Engineering & Scientific Consulting

Lisa Shusto, P.E.

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Professional Profile

Ms. Shusto specializes in evaluating the performance and failure of structures and mechanical components, as well as defects in construction and deterioration of construction materials. She has applied her technical skills to a wide array of engineering applications and problem-solving, with specialized expertise in structural damage assessments and identification of the cause(s) of distress to single- and multi-family residential and light commercial structures.

Ms. Shusto has worked on numerous projects related to accident investigations at the built environment including pedestrian trip and fall injury cases. She is knowledgeable on code compliance including life safety conformance for building and site egress and glazing standards, technical requirements of the Americans with Disabilities Act (ADA) for accessibility to sites, facilities, buildings, and elements by individuals with disabilities,

Ms. Shusto's experience also includes structural safety and damage assessments of structures and equipment in the petroleum industry, dynamic steady state and transient analysis of mechanical components for prediction of failure modes, inspection and evaluation of deteriorated buried pipelines, and torsional analysis and testing of crankshafts.

In the area of seismic engineering, she has performed post-earthquake structural safety and damage assessments (site inspection, rapid visual assessment, structural analysis) and has provided repair/retrofit alternatives for structures damaged by the 1987 Whittier,1989 Loma Prieta, 1994 Northridge, 1999 Koacelli (Turkey), 2001 Nisqually, 2003 Pasos Robles, 2007 Alum Rock, 2008 Chino Hills, 2010 Sierra El Mayor Mexico, 2011 Mineral, Virginia, 2019 Anchorage, and 2019 Trona earthquakes. In addition, she evaluated the effects of high winds and flooding in the aftermath of tornados and hurricanes on residential and light commercial structures.

Ms. Shusto is often called upon to manage complex, multi-disciplinary failure investigations that require coordination of many consultants working on various aspects of the same technical issue. She has utilized this expertise to assist the legal and insurance communities on matters related to the World Trade Center collapse and class action litigations involving building components. Another aspect of Ms. Shusto's expertise is the development of investigation protocols, including technical peer review and management services, for insurance companies facing large numbers of claims following a catastrophe.

Academic Credentials & Professional Honors

M.S., Structural Engineering/Structural Mechanics, University of California, Berkeley, 1983

B.S., Civil Engineering, University of the Pacific, 1982

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Licenses and Certifications

Professional Engineer, Arkansas, #15072

Professional Engineer Civil, California, #39917

Professional Engineer, Colorado, #PE-0041380

Professional Engineer, Kansas, #PE18748

Professional Engineer, Missouri, #2005032844

Professional Engineer Civil, Nevada, #17547

Prior Experience

Principal Engineer and Human Resource Manager, Hopper Engineering Associates, 2005-2009

Principal Engineer, Exponent Failure Analysis Associates, 1982-2005

Professional Affiliations

Structural Engineering Association of Southern California (member)

Post-Disaster Safety Assessment Program, California Office of Emergency Services #SAP10011 (Certified Program Evaluator)

Publications

Shokrabadi M, Shusto L, Hunt J, Jokar A, Osteraas J. Investigation techniques and analysis of damage patterns in building structures due to wildfires. Proceedings, 10th Congress on Forensic Engineering, pp390-400, Seattle, WA, 2024.

Osteraas J, Shusto L. Assessment and repair of earthquake damaged woodframe buildings. Proceedings, 3rd Conference on Earthquake Hazards in the Eastern San Francisco Bay Area, California Department of Conservations, California Geological Survey Special Publication/Report 219, Publication Release April 12, 2011.

Shusto LM, Ahlberg E. Earthquake damage assessment of wood-frame structures. Proceedings, 2011 Architectural Engineering National Conference, , pp. 312-317, March 30-April 2, 2011.

Shusto L, Drinan M, Malmgren G. A practical guide to getting the best from your expert. Subrogator Magazine, Fall 2010, pp. 80-87.

Shusto L, Osteraas J. Earthquake damage assessments. Claims Magazine 2009 Nov; 57(11).

Wolf J, Shusto L. Woodframe project case studies. The CUREE-Caltech Woodframe Project Publication No. W-04, case study 7, 2001.

Osteraas J, Shusto L, McDonald B. Earthquake damage assessment and repair protocols. pp. 209-218. In: Forensic Engineering: Proceedings, Second Congress. American Society of Civil Engineers, San Juan, Puerto Rico, May 21-23, 2000.

Osteraas J, Shusto L, McDonald B. Engineering involvement in post-Northridge damage assessment and

repair of wood-frame dwellings. Paper Number 2593. 12th World Conference on Earthquake Engineering, Auckland, New Zealand, January 30□February 4, 2000.

Johnston P, Shusto L, McDonald B. Correlating torsional response to engine performance parameters. International Off-Highway and Power Plant Congress and Exposition, Society of Automotive Engineering, Milwaukee, WI, September 1993.

Franlke RS, Jones DR, Roberts BL, Shusto LM. Analysis of composite material containing defects. Vol. 10, pp. 320-329. In: Composite Materials Testing and Design. Grimes GC (ed), ASTM STP1120, American Society for Testing and Materials, Philadephia, PA, 1992.

Johnston PR, Shusto L, Swanger LA. Transient analysis of diesel engine crankshaft torsional vibrations. 9th International Conference on Structural Mechanics in Reactor Technology, Lausanne, Switzerland, August 1987.

Johnston PR, Shusto L. Numerical modeling of pendulum dampers in torsional systems. Paper No. 861227, International Off-Highway Power Plant Congress and Exposition, Society of Automotive Engineers, Milwaukee, WI, September 1986.

Johnston PR, Shusto L. Analysis of diesel engine crankshaft torsional vibrations. Society of Automotive Engineers Special Publications on Diesel Engines, November 1986.

Presentations

Shusto L. California earthquake adjuster accreditation. US Adjusting Annual Adjuster Conference, Irving, TX, March 7, 2012.

Shusto L, Carmel R, Eyerly TR, Key D. Ensuring loss: Deny my claim if you must, but cover my resulting loss. ABA Insurance Coverage Litigation Committee CLE Seminar, Round Table Luncheon, Tucson, AZ, March 3-5, 2011.

Shusto L. California earthquake adjuster accreditation. 35th National Association of Catastrophe Adjusters, Daytona Beach, FL, January 10-13, 2011.

Shusto L. Engineering issues for post-earthquake damage assessment. Co-instructor, Training for Insurance Adjusters based on technical requirements of California Department of Insurance, California Code of Regulations, 2004-2012.

Shusto L. Post-disaster safety assessment program training. Speaker and Co-Instructor, Disaster Emergency Services Committee of Structural Engineers Association of Southern California, various engagements 2003-2008, most recent May 2008.

Shusto L. World Trade Center: Process and results of a post failure analysis. Stanford University Department of Structural Engineering and Geomechanics, January 15, 2003.

Shusto L. Koacelli, Turkey earthquake reconnaissance. ASCE Forensic Technical Group, 1999.

Shusto L. The art of failures. University of the Pacific, Engineering Day Guest Lecturer, 1991, 1993, 1994.

Shusto L. Structural failures—Case studies. University of the Pacific, Senior Synthesis Class Guest Lecturer, March 1989.

Shusto L, Eason E. Failure analysis—Case studies. University of California, Berkley, American Society of Civil Engineers Student Chapter Meeting, Fall 1983.