



#### EDUCATION

- Oklahoma State University
  - Bachelor of Science, Civil Engineering, 1999
- North Carolina State University
  - Master of Science, Structural Engineering, 2004
  - Doctor of Philosophy, Structural Engineering, 2006
- Hong Kong Polytechnic University
  - Post-doctoral Fellow, 2007

#### PRACTICE AREAS

- Failure/Damage Investigations
- Fire Damage
- Repair and Rehabilitation
- Structural Analysis/Computer Applications
- Seismic Risk Assessment
- Seismic Repair and Retrofit
- Earthquake Damage Assessment

#### REGISTRATIONS

- Professional (Civil) Engineer in CA
- Structural Engineer in CA and HI

#### CONTACT

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#### EXPERIENCE

Owen Rosenboom is experienced in the investigation, assessment, and retrofit of various existing structures, including high-rise buildings and historic structures. He conducts field investigations of damaged and collapsed structures, and performs evaluations and analyses using a wide range of computer modeling techniques. Dr. Rosenboom has participated in the analysis and investigation of damage resulting from earthquake events both domestically and overseas.

Dr. Rosenboom joined WJE in 2008 from Hong Kong Polytechnic University where he was a post-doctoral fellow. He brings to WJE many years of research experience in concrete and masonry structures, especially related to rehabilitation using fiber reinforced polymer (FRP) materials.

#### REPRESENTATIVE PROJECTS

##### Failure/Damage Investigations

- High School - Los Angeles, CA: Fire damage investigation and repair design of historic auditorium
- Industrial Warehouse - Idaho Falls, ID: Collapse investigation of large one-story steel building under construction
- Various Buildings - Statewide: Collapse investigations and repair of wooden trusses and glulam beams
- Steam Pipe - Brooklyn, NY: Nonlinear finite element modeling and repair design of leaking large-diameter steam pipe

##### Structural Analysis/Computer Applications

- University of California, Berkeley, Faculty Club: Condition assessment of historic three-story, wood-framed building
- Apartments - Orange County, CA: Structural assessment review of a complex of twelve apartment buildings on expansive soil
- Condominiums - Marina Del Rey, CA: Structural assessment of three-story condominium on reinforced concrete slab podium
- Stadium - Miami, FL: Structural assessment of wind loading on thin, concrete, cantilevered folded-plate roof structure

##### Seismic Risk Assessment

- Washington Monument - Washington, D.C.: Seismic assessment and conceptual retrofit design of iconic structure using detailed computer models and nonlinear time-history analyses benchmarked using observed damage and seismic input from 2011 Mineral earthquake
- U.S. Department of State - Various locations worldwide: Seismic evaluations of offices and housing
- German Consulate - San Francisco, CA: Code- and performance-based seismic assessment of two 1920s wood-framed mansions
- Gressette Building - Columbia, SC: Seismic assessment and retrofit design of 1960s reinforced-concrete Senate office building
- Hospital - Walnut Creek, CA: Performance-based seismic assessment of six-story steel-braced frame building built in the 1960s
- Apartments - Seattle, WA: Detailed performance-based seismic assessment of sixteen-story, reinforced-concrete-frame tower

##### Seismic Repair and Retrofit Design

- Hibernia Bank - San Francisco, CA: Seismic strengthening analysis and design for 19th century banking palace
- Foundry 31 - Berkeley, CA: Detailed performance-based assessment and design of fiber reinforced polymer (FRP) and concrete seismic retrofit of 1950s building

##### Earthquake Damage Assessment

- Various buildings - Christchurch, New Zealand: Member of ASCE team that documented performance of building structures after 2011 earthquake
- King Kamehameha Kona Beach Hotel - HI: Finite element model development, nonlinear pushover analysis, response spectrum analysis, and time-history analysis
- Mauna Kea Beach Hotel - Kohala Coast, HI: Damage investigation review of two hotel campuses, including landmark reinforced-concrete building; finite element analytical models, including static and dynamic loading; and nonlinear pushover analysis