



William J. Kirkham,
P.E.* , S.E.** , Ph.D.,
F. SEI, M. ASCE

Curriculum Vitae

Current Engagement

2003–present **Forensic Engineer**, *APT Engineering LLC*, Spring Hill, Florida

Licenses

Professional Engineer*	CA, CT, DC, FL, GA, KS, MD, MO, NC, NY, TX, VA, WA
Structural Engineer**	AZ, HI, IL, OK, OR, UT
NCEES	MLE (<i>Model Law Engineer</i>)
NCEES	MLSE (<i>Model Law Structural Engineer</i>)

Education

2003–2013 **Ph.D.**, *Oregon State University*, Corvallis, OR
Wood Science & Civil Engineering (dual major)

1994–1998 **Master of Science**, *Oregon State University*, Corvallis, OR
Civil Engineering (major - structural engineering, minor - geotechnical engineering)

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1973–1978 **Bachelor of Science**, *Oregon State University*, Corvallis, OR
Chemical Engineering

1973–1978 **Bachelor of Science**, *Oregon State University*, Corvallis, OR
Computer Science

Ph.D. Dissertation

Title *Examination of lateral stiffness and strength of pitched residential roof diaphragms with implications for seismic design.*

Supervisors Thomas H. Miller, Rakesh Gupta

Master's Project

Title *Examination of AISC LRFD Shear Lag Design Provisions*

Supervisor Thomas H. Miller

Design Experience

2003–
current **Principal**, *APT Engineering LLC*, Spring Hill, FL
Structural design for concrete, steel, masonry, timber, cold-formed steel. Glass and stone curtainwall. Designed and sealed over 500 projects from 2003 to 2024.

2001–2003 **Project Manager**, *DCI Engineers*, Portland, OR
Structural design for concrete, steel, masonry, timber, cold-formed steel. Glass and stone curtainwall.

1998–2001 **Project Engineer**, *kpff*, Portland, OR
Structural design for concrete, steel, masonry, timber, cold-formed steel. Glass and stone curtainwall.

1987–2004 **President**, *Oregon Land & Exploration, Inc.*, Portland, OR
Land investment and development, subdivisions and partitions. Site development planning and feasibility studies.

Academic Experience

2024 **Doctoral Comprehensive Exam Committee**, *The University of Kansas*, Lawrence, Kansas

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- 2020 **Doctoral Final Exam (Disertation Defense) Committee**, *The University of Kansas*, Lawrence, Kansas
- 2019 **Doctoral Comprehensive Exam Committee**, *The University of Kansas*, Lawrence, Kansas
- 2020 **Master’s Exam (Thesis Defense) Committee**, *The University of Kansas*, Lawrence, Kansas
- 2018 **Master’s Exam (Thesis Defense) Committee**, *The University of Kansas*, Lawrence, Kansas
- 2017 **Master’s Exam (Thesis Defense) Committee**, *The University of Kansas*, Lawrence, Kansas

2016–2024 **Director MCE Program/Professor of Practice in Civil Engineering**, *The University of Kansas*, Lawrence, Kansas

Classes taught:

- CE 525 Applied Probability&Statistics
- CE 704 Dynamics and Vibrations
- CE 711 Probabilistic Design and Reliability
- CE 713 Cold-formed Steel and Aluminum Design
- CE 714 Professional Practice
- CE 725 Applied Probability&Statistics
- CE 763 Design of Prestressed Concrete Structures
- CE 764 Advanced Design of Reinforced Concrete Structures
- CE 768 Design of Timber Structures
- CE 769 Design of Masonry Structures
- CE 861 Finite Element Methods for Solid Mechanics
- CE 864 Seismic Performance of Structures
- CE 895 Advanced Special Topics: Design of Tall Buildings
- CE 895 Building Envelope Design

Supervised more than 30 Master’s degree students.

2022–2025 **Co-Chair, KU Structures Conference** , *The University of Kansas*, Lawrence, Kansas

This is the largest, single day structural engineering conference in the U.S. Approximately 450 attendees.

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2018– **Member, KU Structures Conference Planning Committee**, *The*
2021 *University of Kansas*, Lawrence, Kansas

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Association Memberships

American Institute of Steel Construction (AISC) 2005-present

American Society of Civil Engineers (ASCE) 2000-present

Structural Engineers Institute (SEI) 2000-present

**Structural Engineers Association of Kansas-Missouri (SEAKM)
2016-present**

American Wood Council, 2014-2020

Structural Engineers Association of Oregon (SEAO) 1998-2016

Earthquake Engineering Research Institute (EERI) 2003-2005

Forest Products Society 2008

Professional Service outside the University

**Voting Member, American Wood Council, Wood Design Standards
Committee (AWC WDSC) 2023-present**

Voting member determining the content of the building code for wood.

**Vice-President, Structural Engineers Association of Kansas-
Missouri, KC Chapter (SEAKM-KC) 2022, 2023**



**Member, ASCE Infrastructure Resilience Division/Risk And Re-
silience Measurements Committee. 2021-present**

**Member, ASCE Infrastructure Resilience Division/Social Science,
Policy, Economics, Education Decision Committee. 2021-present**

**Member, ASCE/SEI Design of Wood Structures Subcommittee
2020-present**

Session Chair, ASCE/SEI Structures Congress. 2019

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Chair, ASCE/SEI Committee on the Performance of Wood Structures. 2016 - 2019, elected

Member, ASCE/SEI Wood Research Subcommittee 2013-2019

Honors and Awards

Elected Fellow of ASCE/SEI, 2025

Outstanding Reviewer, ASCE Journal of Architectural Engineering. 2022

Outstanding Reviewer, ASCE Practice Periodical for Design and Construction. 2022

Outstanding Reviewer, ASCE Practice Periodical for Design and Construction. 2021

Outstanding Reviewer, ASCE Journal of Architectural Engineering. 2020

Selected Forensic Experience

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2010– **Expert Witness**, *APT Engineering LLC*, Spring Hill, Florida
present

Construction Defects 2025

In progress. Examined construction documents, maintenance records, performed hose water testing and measured wood moisture content to document dry rot

Civil Rights, 2024

In progress. Examined doctoral dissertation, university procedures and department practices with respect to a Ph.D. candidate being denied due to race or ethnicity. Deposed 2 hrs. Trial date is pending.

Landing Collapse, 2024

In progress. Engineering investigation of stairway landing that collapsed.

Defective Railing, 2024

Engineering investigation of an accident where a railing may have been deficient. Resolved in mediation.

Illegal Annexation, 2024

In progress. Consultant to State of Kansas, Attorney General. Deposed for 2 hours. Trial testimony 2 hours.

Shotcrete Pool Failures, 2023

In progress. Engineering investigation of multiple pool failures due to cracking. Possible causes include ground freezing, improper concrete mix, concrete freezing, shrink/swell of soil.

KC Parking Garage, 2020

Multi-story post-tensioned concrete parking garage experienced tendon blowouts. We examined the structure and design drawings, concluding that the tendons in a portion of the slab had been incorrectly placed. Resolved in mediation.

Portland Apartments, 2014

Multi-story concrete and steel apartment building. Curtainwall repair and upgrade resulted in water infiltration. Examining the repair design drawings, and examination of the site, we concluded that the curtainwall contractor had not followed the design drawings. This led to the water infiltration. Resolved in mediation.

Assisted Living Center, 2010-2013

Multi-story wood building. Examination of the structure and found multiple defects. Testimony, 2 hours and cross-examination, 2 hours. Subsequent litigation, deposed 8 hours.

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References

William J. Kirkham. *Examination of lateral stiffness and strength of pitched residential roof diaphragms with implications for seismic design*. PhD thesis, October 2013.

William J. Kirkham. Case study: Four story assisted living facility alleges unacceptable design and construction defects; what can we learn? In *Structures Congress 2015*, pages 616–626, 2015.

William J. Kirkham. Reducing construction defects and design errors in timber buildings. In *Structures Congress 2018*, pages 262–270, 2018.

William J. Kirkham. How levels of fabrication precision can lead to improved quality in light frame wood construction. In *Structures Congress 2019*, pages 66–73, 2019.

William J. Kirkham. The statistical history of US tornadoes. In *Structures Congress 2022*, pages 413–425, 2022.

William J. Kirkham, Rakesh Gupta, and Thomas H. Miller. State of the art: Seismic behavior of wood-frame residential structures. *Journal of Structural Engineering*, 140(4):04013097, 2014.

William J. Kirkham, Rakesh Gupta, and Thomas H. Miller. Effects of roof pitch and gypsum ceilings on the behavior of wood roof diaphragms. *Journal of Performance of Constructed Facilities*, 29(1):04014039, 2015.

William J. Kirkham and Thomas H. Miller. Examination of aisc lrfd shear lag design provisions. *Engineering Journal*, 37(3):83–98, Sep. 2000.

William J. Kirkham, Thomas H. Miller, and Rakesh Gupta. Practical analysis for horizontal diaphragm design of wood-frame single-family dwellings. *Practice Periodical on Structural Design and Construction*, 21(1):04015005, 2016.

Elaina J. Sutley, Jae H. Kim, William J. Kirkham, and Remy D. Lequesne. Examining tornado vulnerability in kansas with recent findings from an EF4 tornado. *Natural Hazards Review*, 22(3):04021021, 2021.

Google Scholar indicates 104 citations of my research.

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