CHARLES W. ROEDER

Curriculum Vitæ

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EDUCATIONAL HISTORY

University of California, Berkeley, California
PhD, Civil Engineering
December 1977
Eccentrically Braced Frames

University of Illinois, Urbana-Champaign, Illinois
MS, Civil Engineering
June 1971
Dynamic Response of a Drilling Riser

University of Colorado, Boulder, Colorado
BS with Special Honors, Civil Engineering
December 1969

EMPLOYMENT HISTORY

Department of Civil Engineering, University of Washington
Seattle, WA, USA
Assist. Prof. Sept 1977-Sept 1981, Assoc. Prof. Sept. 1981-Sept 1985, Prof. Sept. 1985-Present

Department of Civil Engineering, University of California
Berkeley, CA, USA
Teaching Assistant, Sept. 1974 - Mar. 1975, Research Assistant, Mar. 1975 - Aug. 1977

Shaffer and Son, General Contractors
Palmyra, PA, USA
June 1960 - Sept 1966 with exception of military service

US Army, primary assignment 46th Engineering Battalion (Const)
Fort Polk, LA, USA and Long Bien Province, South Vietnam
April 1, 1964 to March 30, 1966

Structural Engineer, J. Ray McDermott, Inc, New Orleans, LA
Design and construction of offshore structures for oil industry, June 1971- August 1974

AWARDS AND HONORS

Tau Beta Pi, Honorary Society, University of Colorado
Chi Epsilon, Honorary Society, University of Colorado
Glenn Murphy Award, 1969, University of Colorado
University Fellowship, University of Illinois, Jan. 1970 to June 1971
1977 James F. Lincoln Design Competition Award
1979 J. James R. Croes Medal, ASCE
Faculty Advisor to Award Winner - 1979 and 1983 James F. Lincoln Student Design Competition
1984 Raymond C. Reese Research Prize, ASCE
1986 Special Commendation Award, ACI
2002 Academic Engineer of the Year, Puget Sound Engineers Council
2002 Special Achievement Award, AISC
2006-2011 Allan and Inger Osberg Endowed Professorship in Civil Engineering
2010 Ernest E. Howard Award, ASCE
2011 T. R. Higgins Lectureship, AISC
2014 Lifetime Achievement Award, AISC

AFFILIATIONS AND OTHER APPOINTMENTS

PUBLICATIONS

Refereed archival journal publications

1. Roeder, C.W., Tsai, K-C., Lehman, D.E., Lien, Y-C, Lumpkin, E., Tsai, C-Y, Hsiao, P-C, and Ao, W-H, (2013) "In-Plane Buckling of Special Concentrically Braced Frames," submitted for publication review, *Engineering Journal*, AISC, Chicago.
2. Roeder, C.W., Lehman, D.E., Stephens, M. (2014) "Concrete Filled Steel Tubes for Accelerated Bridge Construction," approved for publication, *Transportation Research Record*, Washington, DC.
3. Palmer, K.D., Christopulos, A., Lehman, D.E., and Roeder, C.W. (2014) "Experimental Evaluation of Cyclically Loaded, Large-Scale, Planar and 3-D Buckling-Restrained Braced Frames, approved for publication, *Journal of Constructional Steel Research*, Elsevier.
4. An, Y-F, Han, L-H, and Roeder, C.W. (2013) "Flexural performance of concrete-encased concrete-filled steel tubes," *Magazine of Concrete Research*, http://dx.doi.org/10.1680/macr.13.00268, Institution of Civil Engineers.
5. Lehman,D.E., Kuder, K., Gunnarsson, A.K., Roeder, C.W., and Berman, J.W. (2013) "Circular Concrete Filled Tubes for Improved Sustainability and

Seismically Resilience" approved for publication, *Journal of Structural Engineering*, ASCE, Reston, VA.

6. Chiaramonte, M.M., Arduino, P., Lehman, D.E., and Roeder, C.W. (2013) "Seismic Analysis of Conventional and Improved Marginal Wharves," *Earthquake Engineering and Structural Dynamics*, Vol. 42, No. 10, pgs 1435-50.
7. Tsai, C-Y, Tsai, K-C, Lin, P-C, Ao, W-H, Roeder, C. W., Mahin, S.A., Lin, C-H, Yu, Y-J, Wang, K-J, Wu, A-C, Chen, J-C, and Lin, T-H (2013) "Seismic Design and Hybrid Testing of a Full-Scale 3-Story Concentrically Braced Frame Using In-Plane Buckling Braces," *Earthquake Spectra*, Vol 29, No. 3, Earthquake Engineering Research Institute, Oakland, CA, pgs 1042-1067.
8. Moon, J., Lehman, D.E., Roeder, C.W., and Lee, H-E (2013) "Evaluation of Embedded Concrete Filled Tube (CFT) Column-to-Foundation Connections," *Engineering Structures*, Vol. 56, pgs 22-35, Elsevier.
9. Palmer, K.D., Roeder, C.W., Lehman, D.E., Okazaki, T., and Shield, C.K. (2013) "Experimental Performance of Two-Story, One-Bay by One-Bay Steel Braced Frame Systems," *Journal of Structural Engineering*, Vol. 139, No. 8, pgs. 1274-84, ASCE, Reston, VA.
10. Palmer, K.D, Roeder, C.W, Lehman, D.E., Okazaki, T., Shield, C.K, and Powell, J. (2012) "Concentric X-Braced Frames with HSS Bracing," *International Journal of Steel Structures, Vol 12, No 3,* Korean Society of Steel Construction, Seoul, pgs 443-459.
11. Moon, J., Lehman, D.E., and Roeder, C.W. (2012) "Strength of Circular Concrete Filled Tubes (CFT) with and without Internal Reinforcement Under Combined Loading," approved for publication, *Journal of Structural Engineering*, ASCE, Reston, VA, DOI:10.1061(ASCE)ST1943-541X.000078.
12. Hsiao, P-C, Lehman, D.E., Berman, J.W., Roeder, C.W., and Powell, J. (2012) "Seismic Vulnerability of Older Braced Frames," *Journal of Performance of Constructed Facilities*, ASCE, Reston, VA, DOI 10.1061(ASCE)CF.1943-5509.0000394.
13. Hsiao, P-C, Lehman, D.E., and Roeder, C.W. (2013) "A Model to Simulate Special Concentrically Braced Frames Beyond Brace Fracture," *Earthquake Engineering and Structural Dynamics*, Wiley, Vol. 42, No. 2, pgs. 183-200.
14. Hsiao, P-C, Lehman, D.E., and Roeder, C.W. (2013) "Evaluation of Response Modification Coefficient and Collapse Potential of SCBFs," *Earthquake Engineering and Structural Dynamics*, Wiley, Vol.42 No 10, pgs. 1547-64.
15. Lehman, D.E. and Roeder, C.W. (2012) "Foundation Connection for Circular Concrete Filled Tubes," *Journal of Constructional Steel Research,* Vol. 78, November 2012, pgs. 212-25, Elsevier.
16. Lumpkin, E.J., Hsiao, P-C, Roeder, C.W., Lehman, D.E., Tsai, C-Y, Wu, A-C, Wei, C-Y, and Tsai, K-C, (2012) "Investigation of the Seismic Response of Multi-Story Braced Frames," *Journal of Constructional Steel Research*, Vol. 77, Oct 2012, pgs 131-144, Elsevier.
17. Lin, P-C, Tsai, K-C, Wang, K-J, Yu, Y-J, Wei, C-Y, Wu, A-C, Tsai, C-Y, Chen, J-C, Schellenberg, A., Mahin, S.A., and Roeder, C.W. (2012) "Seismic Design and Hybrid Tests of a Full-scale 3-story Buckling-Restrained Braced Frame Using Welded End Connections and Thin Profile," *Earthquake Engineering and Structural Dynamics*, Vol 41, Issue 5, April 2012, pgs 1001-20,Wiley.

18. Lehman, D.E, Roeder, C.W., Stringer, S.J., and Jellin, A. (2013) "Seismic Performance of Improved Pile-to-Wharf Deck Connections," *PCI Journal*, Vol. 58, No. 3, pgs 62-80, Prestressed Concrete Institute.
19. Hsiao, P-C, Lehman, D.E., and Roeder, C.W. (2012) "Improved Analysis Model for Special Concentrically Braced Frames," Vol. 63, *Journal of Constructional Steel Research*, Elsevier, pgs 80-94.
20. Kam, W.Y., Pampanian, S., Dhakal, R., Gavin, H.P., and Roeder, C.W. (2010) "Seismic Performance of Reinforced Concrete Buildings in the 2010 Darfield (Canterbury) Earthquake," Bulletin of the New Zealand Society for Earthquake Engineering, Vol 43. No. 4, pgs 355-74.
21. Moon, J., Roeder, C.W., Lehman, D.E., and Lee, H-E (2012) "Analytical Modeling of Bending of Circular Concrete-Filled Tubes," Engineering Structures, Vol 42, pgs 349-361.
22. Roeder, C.W., Lumpkin, E., and Lehman, D.E. (2011) "Seismic Performance Assessment of Concentrically Braced Steel Frames," *Earthquake Spectra*, May 2012, Vol. 28, No. 2 (May 2012) pp. 709-727, EERI, Oakland, CA.
23. Roeder, C.W., Lumpkin, E.J., and Lehman, D.E. (2011) "Balanced Design Procedure for Special Concentrically Braced Frame Connections," Elsevier, *Journal of Constructional Steel Research*, Vol 67 No 11, pgs 1760-72.
24. Roeder, C.W., Lehman, D.E., and Bishop, E. (2010) "Strength and Stiffness of Circular Concrete Filled Tubes," ASCE, *Journal of Structural Engineering*, Vol 135, No. 12, pgs 1545-53, Reston, VA.
25. Berman, J.W., Wang, B-S., Olson, A.W., Roeder, C.W., and Lehman, D.E. (2012) "Rapid Assessment of Gusset Plate Safety in Steel Truss Bridges," ASCE, *Journal of Bridge Engineering*, Vol 17, No. 2, Reston, VA pgs 221-31.
26. Roeder, C.W., Lehman, D.E., Clark, K, Powell, J., Yoo, J-H, Tsai, K-C, Lin, C-H, and Wei, C-Y (2011) "Influence of Gusset Plate Connection and Braces on the Seismic Performance of X-Braced Frames," *Earthquake Engineering and Structural Dynamics*, Vol 40, No. 4, pgs 355-74, Wiley.
27. Roeder, C.W., and Lehman, D.E., (2011) "An Economical and Efficient Foundation Connection for Concrete Filled Steel Tube Piers and Columns." *Composite Construction in Steel and Concrete VI*, ASCE, Reston, VA, pgs 351-63.
28. Roeder, C.W, Lehman, D.E., and Thody, R. (2009) "Composite Action in CFT Components and Connections," AISC, *Engineering Journal*, Vol. 46, No. 4, Chicago, IL, pgs 229-42.
29. Yoo, J.H., Roeder, C.W., and Lehman (2009) "Simulated Behavior of Multi-Story X-Braced Frame," Elsevier, *Engineering Structures*, Vol 31, pgs 182-97.
30. Yoo, J.H, Lehman, D.E., and Roeder, C.W., (2008) "Influence of Connection Design Parameters on the Seismic Performance of Braced Frames," *Journal of Constructional Steel Research*, Elsevier, Vol. 64, pgs 607-623.
31. Lehman, D.E., Roeder, C.W., Herman, D., Johnson, S., and Kotulka, B., (2008) "Improved Seismic Performance of Gusset Plate Connections," ASCE, *Journal of Structural Engineering*, Vol.134, No. 6, Reston, VA, pgs 890-901.

32. Yoo, J.H., Roeder, C.W., and Lehman, D.E., (2008) "FEM Simulation and Failure Analysis of Special Concentrically Braced Frame Tests," ASCE, *Journal of Structural Engineering*, Vol.134, No. 6, Reston, VA, pgs 881-89.

33. Roeder, C.W., MacRae, G., Leland, A., and Rospo, A (2005) Extending the Fatigue Life of Riveted Stringer Connections, ASCE, *Bridge Engineering Journal*, Vol 10, No. 1, pgs 69-76.

34. Roeder, C.W., Graff, R., Soderstrom, J. and Yoo, J.H. (2005) "Seismic Performance of Pile-Wharf Connections," ASCE, *Structural Engineering Journal*, Vol. 132, No. 3, March, 2005, pgs 428-37.

35. Roeder, C.W., Lehman, D.E., and Yoo, J.H., (2005) "Improved Seismic Design of Steel Frame Connections," *International Journal of Steel Structures*, Korean Society of Steel Construction, Seoul, Korea, Vol. 5, No. 2, pgs 141-53.

36. Lehman, D.E., Roeder, C.W., and Larsen, R.E., (2005) "Design of Cotton Duck Bridge Bearing Pads," ASCE, *Journal of Bridge Engineering*, Vol. 10, No.5, October 2005, pgs 555-63.

37. Kingsley, A., Williams, T., Lehman, D.E. and Roeder C.W., (2005) "Experimental Investigation of Column-to-Footing Connections for High Strength Vanadium Steel Concrete Filled Tube Construction," *International Journal of Steel Structures*, Korean Society of Steel Construction, Seoul, Korea, Vol. 5, No. 4, December 2005, 377-87.

38. MacRae, G. A., Kimura, Y., and Roeder, C.W., (2004). "Effect of Column Stiffness on Braced Frame Seismic Behavior," ASCE, *Journal of Structural Engineering* , Vol 130, No. 3, pgs 381-91.

39. MacRae, G.W., Roeder, C.W., Gunderson, C. and Kimura, Y. (2004) "Brace-Beam-Column Connections for Concentrically Braced Frames with CFT Columns," ASCE, *Structural Engineering Journal*, Vol 130, No. 2, Feb, pgs 233-43.

40. Roeder, C.W., Barth, K., and Bergman, A. (2004) "Effect of Deflections on Steel Bridge Performance," ASCE, *Bridge Engineering Journal*, Vol. 9, No. 3, pgs 269-73.

41. Roeder, C.W., (2003) Proposed Design Method for Thermal Bridge Movements, ASCE, *Journal of Bridge Engineering*, Vol. 8, No. 1, pgs. 12-18.

42. Barth, K. E., Roeder, C.W., Christopher, R. A., and Wu,H., (2003) "Evaluation of Live-Load Deflection Criteria for I-Shaped Bridge Girders," *High Performance Materials in Bridges, Engineering Structures*. ASCE, Washington, D.C., pgs 193-208.

43. Tada, M., Fukui, T., Nakashima, M., and Roeder, C.W., (2003) "Comparison of Strength Capacity for Steel Building Structures in the United States and Japan," Chinese Taiwan Society for Earthquake Engineering, *International Journal of Earthquake Engineering and Engineering Seismology*, Vol. 4., No. 1, pgs 37-49.

44. Roeder, C.W., (2002) General Issues Influencing Connection Performance, ASCE, *Journal of Structural Engineering*, Vol. 128, No.4, April 2002, pgs 420-428.

45. Roeder, C.W., (2002) Connection Performance for Seismic Design of Steel Moment Frames, ASCE, *Journal of Structural Engineering*, Vol. 128, No.4, April 2002, pgs 517-525.

46. Roeder, C.W., MacRae, G.A., and Scott, K. (2002). Seismic Performance of Older Steel frame Mill Buildings, *Journal of Constructional Steel Research*, Elsevier Sciences Ltd, London, Vol. 58, April 2002, pgs 759-777.

47. Forcier, G. P., Leon, R.T., Severson, B.E., and Roeder, C.W. (2002). Seismic Performance of Riveted Connections, *Journal of Constructional Steel Research*, Elsevier Sciences Ltd, London, Vol. 58, April 2002, pgs 779-99.

48. MacRae, G., Morrow, D., and Roeder, C.W., (2001) Near-Fault Ground Motion Effects on Short Period Structures, ASCE, *Journal of Structural Engineering*,Vol 127, No. 9, August 2001.

49. Tada, M., Fukui, T., Nakashima, M., and Roeder, C.W., (2001). " Comparison of Seismic Design Provisions for Steel Building Structures between US and Japan," Japan Society for Steel Construction, *Journal of Steel Construction*, Vol 8, No. 31, Tokyo, Japan, pp 129-143 (in Japanese).

50. Roeder, C.W., (2001). "Prequalification of Steel Moment Frame Connection Performance," *Spectra*, Vol. 19, No. 2, EERI, Oakland, CA, pgs 291-308.

51. Roeder, C.W., MacRae, G, Crocker, P., Arima, K., and Wong, S., (2000) Dynamic response and fatigue of a steel tied arch bridge, ASCE, *Journal of Bridge Engineering*, Vol 5, No. 1, January 2000.

52. Nakashima, M., Roeder, C.W., and Maruoka, Yoshiomi, (2000) Steel moment frames for earthquakes in the United States and Japan, ASCE, *Journal of Structural Engineering*, Vol 126, No. 9, August 2000.

53. Roeder, C.W., Chmielowski, R., and Brown, C.B., (1999) Shear connector requirements for embedded steel sections, *Structural Engineering*, ASCE, Vol. 125, No 1, Jan. 1999, pgs142-51.

54. Roeder, C.W., Cameron, B., and Brown, C.B., (1999) Composite action in concrete filled tubes, *Structural Engineering*, ASCE, Vol 125, No. 5, May 1999, pgs 477-84.

55. Roeder, C.W., (1998) Development of hybrid and composite systems for seismic design in the United States, *Engineering Structures*, Vol 20, No 4-6, Elsevier Science, Oxford, UK pgs 355-63.

56. Roeder, C.W., (1998) Fatigue and dynamic loading measurements on modular expansion joints, *Journal of Construction and Building Materials*, Vol. 12, No. 2-3, 151 Elsevier Science, Oxford, UK, pgs 143-50.

57. Roeder, C.W., (1998) Column cracking in steel moment frames, Stability and Ductility of Steel Structures, Pergamon, Elsevier, Oxford UK, pgs 401-14.

58. Roeder, C.W., Knechtel, Thomas, E., Vaneaton, A., Leon, R.T., and Preece, F.R., (1996) Seismic behavior of older steel structures, *Journal of Structural Engineering*, ASCE, Vol 122, No. 4, New York, pgs 365-73.
59. Roeder, C. W., and Foutch, D. F., (1996) Experimental results for seismic resistant steel moment frame connections, *Journal of Structural Engineering*, ASCE, 122, No. 6, New York, pgs 581-88.
60. Roeder, C.W., Leon, R.T., and Preece, F.R., (1996) Expected seismic behavior of older steel structures, *Earthquake Spectra*, EERI, Vol. 12, No. 4, Oakland, CA, pgs 805-24.
61. Roeder, C.W., Banerjee, S, Jung, D., and Smith, S.K., (1996) The role of building foundations in seismic retrofit, *Earthquake Spectra*, EERI, Vol. 12, No. 4, Oakland, CA, pgs.924-44.
62. Roeder, C.W., Stanton, J.F., and Campbell, T.I., (1995) Rotation of high load multi-rotational bridge bearings, *Journal of Structural Division*, ASCE, Vol 121, No. 4, New York, pgs 747-56.
63. Roeder, C.W., Hildahl, M., and Van Lund, J.A., (1995) Field measurements of a large modular expansion joints, *Transportation Research Proceedings 7*, TRB, National Research Council, Washington, D.C., pgs 111-21.
64. Schneider, S.P. and Roeder, C.W., (1994) An inelastic substructure technique for pseudodynamic test method," *Earthquake Engineering and Structural Dynamics*, Vol. 23, No. 7, Richmond, CA, pgs 761-75.
65. Roeder, C.W., Hildahl, M., and Van Lund, J.A., (1994) Fatigue cracking in modular bridge expansion joints, *Transportation Research Record 1460*, TRB, National Research Council, Washington, DC, pgs 87-93.
66. Roeder, C.W., Leon, R. and Preece, F.R., (1993) Effect of composite action on the seismic performance of older steel structures, ASCE Special Publication, Composite Construction in Steel and Concrete II, edited by W.S. Easterling and W.M.K. Roddis, New York, pgs 382-95.
67. Roeder, C.W., Schneider, S.P. and Carpenter, J.E., (1993) Seismic behavior of moment-resisting steel frames - analytical study, *Journal of Structural Division*, ASCE. Vol 119, No. 6, New York, pgs 1866-84.
68. Schneider, S.P., Roeder, C.W. and Carpenter, J.E., (1993) Seismic behavior of moment-resisting steel frames - experimental study, *Journal of Structural Division*, ASCE, Vol 119, No. 6, New York, pgs 1885-1902.
69. Stanton, J.F. and Roeder, C.W., (1992) Elastomeric bearings: an overview, *Concrete International*, ACI, Detroit, MI, pgs 41-46.
70. Moorty, S. and Roeder, C.W., (1992) Temperature dependent bridge movements, *Journal of Structural Division*, ASCE, Vol. 118, No. 4, New York, pgs 1090-1105.
71. Stanton, J.F. and Roeder, C.W., (1991) Advantages and limitations of seismic isolation, *Earthquake Spectra*, EERI, Vol. 7, No. 2, Richmond, CA, pgs 301-24.

72. Roeder, C.W. and Stanton, J.F., (1991) State of the art elastomeric bridge bearing design, *ACI Structural Journal*, ACI, No. 1, Vol. 88, Detroit, pgs 31-41.
73. Roeder, C.W. and Moorty, S., (1991) Thermal movements in bridges, *Transportation Research Record 1290*, Vol. 1, TRB, National Research Council, Washington, DC, pgs 135-43.
74. Roeder, C.W. and Stanton, J.F., (1991) Design of laminated elastomeric bridge earings, *Transportation Research Record 1290*, Vol. 2, TRB, National Research Council, Washington, DC, pgs 199-206.
75. Stanton, J.F., Scroggins, D., Taylor, A.W. and Roeder, C.W., (1990) Stability of laminated elastomeric bearings, *Journal of Engineering Mechanics*, ASCE, Vol. 116, No. 6, New York, pgs 1351-70.
76. Roeder, C.W., Stanton, J.F. and Taylor, A., (1990) Fatigue of steel-reinforced elastomeric bearings, *Journal of Structural Division*, ASCE, No. ST2, Vol. 116, New York, pgs 407-26.
77. Roeder, C.W., Stanton, J.F. and Feller, T., (1990) Low temperature performance of elastomers, *Cold Regions Journal*, ASCE, Vol. 4, No. 3, New York, pgs 113-32.
78. Roeder, C.W., (1989) Seismic behavior of a concentrically braced frame, *Journal of Structural Division*, ASCE, Vol. 115, No. 8, New York, pgs 1837-56.
79. Roeder, C.W. and Dailey, R., (1989) Web crippling of seated beam connections, *Engineering Journal*, Vol. 3, No. 26, AISC, Chicago, pgs 90-95
80. Roeder, C.W., Carpenter, J.E. and Taniguchi, H., (1988) Predicted ductility demands for steel moment resisting frames, *Earthquake Spectra*, EERI, Vol. 5, No. 2, Oakland, CA, pgs 409-28.
81. Schneider, S.P. and Roeder, C.W., (1988) Analytical predictions of plastic deformations of heated steel, *Journal of Structural Division*, ASCE, Vol. 114, No. 6, New York, pgs. 1285-1302.
82. Foutch, D.A., Goel, S.C. and Roeder, C.W., (1987) Seismic testing of a full scale steel building - Part I, *Journal of Structural Division*, ASCE, No. ST11, Vol. 113, New York, pgs 2111-29.
83. Roeder, C.W., Foutch, D.A. and Goel, S.C., (1987) Seismic testing of a full scale steel building - Part II, *Journal of Structural Division*, ASCE, No. ST11, Vol. 113, New York, pgs 2130-45.
84. Roeder, C.W. and Eltvik, L., (1986) An evaluation of autostress design, *Transportation Research Record 1044*, TRB, National Research Council, Washington, D.C., pgs 35-42.
85. Roeder, C.W., (1986) Experimental study of heat-induced deformation, *Journal of Structural Division*, ASCE, ST10, Vol. 112, New York, Pgs 2247-62.

86. US-JTCC, (1985) Damage survey of the Nihon-Kai-Chuba, Japan earthquake of May 26, 1983, *Earthquake Spectra*, EERI, Vol. 1, No. 2, Oakland, CA, pgs 319-52.
87. Roeder, C.W., (1985) Bond stress of embedded steel shapes in concrete," Composite and Mixed Construction, ASCE Special Publication, New York, pgs 227-40.
88. Assadi, M. and Roeder, C.W., (1985) Lateral buckling of continuously restrained cantilevers, *Journal of Engineering Mechanics*, ASCE, Vol. III, No. 12, New York, pgs 1440-56.
89. Roeder, C.W. and Stanton, J.F., (1983) Elastomeric bearings: a state of the art, *Journal of Structural Division*, ASCE, Vol. 109, No. 12, New York, pgs 2853-71.
90. Stanton, J.F. and Roeder, C.W., (1983) A comparison of design criteria for elastomeric bearings, *Journal of ACI*, ACI, Vol. 80, No. 6, Detroit, pgs 514-25.
91. Roeder, C.W. and Assadi, M., (1982) Lateral stability of I beams with partial support, *Journal of Structural Division*, ASCE, Vol. 108, No. ST8, New York, pgs 1768-80
92. Roeder, C.W. and Hawkins, N.M., (1981) Connections between steel frames and concrete walls, *Engineering Journal*, AISC, Vol. 18, No. 1, Chicago, pgs 22-29.
93. Roeder, C.W., (1981) Point loads on composite form-reinforced decks, *Journal of Structural Division*, ASCE, Vol. 107, No. ST12, New York, pgs 2421-29.
94. Hawkins, N.M., Mitchell D. and Roeder, C.W., (1980) Moment resisting connections for mixed construction, *Engineering Journal*, AISC, Vol. 17, No. 1, Chicago, pgs 1-10
95. Roeder, C.W. and Popov, E.P., (1978) Eccentrically braced steel frames for earthquakes, *Journal of Structural Division*, ASCE, Vol. 104, No. ST3, New York, pgs 391-412.
96. Roeder, C.W. and Popov, E.P., (1978) Cyclic shear yielding of wide flange beams, *Journal of Engineering Mechanics*, ASCE, Vol. 99, No. EM4, New York, pgs 763-780.
97. Popov, E.P. and Roeder, C.W., (1978) Design of eccentrically braced frames, *Engineering Journal*, AISC, Vol. 15, No. 3, New York, pgs 78-81.

Conference proceedings and other non-journal articles

- ***Fully refereed publications***

1. Roeder, C.W., Lehman, D.E., Lumpkin, E., Hsiao, P-C, and Palmer K. (2011) "SCBF Gusset Plate Design," T.R. Higgins Lecture, AISC North American Structural Steel Conference, Pittsburgh, PA, May 11-14, 2011.
2. Palmer, K., Okazaki, T., Roeder, C., and Lehman, D. (2010) "Three Dimensional Tests of a Two-Story One-Bay Special Concentrically Braced Frame (SCBF)

Specimen Designs and Details," 9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 25-29, 2010

3. Roeder, C.W., Lehman, D.E., Powell, J., and Hsiao, P.C. (2010) "Seismic Performance and Design of Gusset Plate Connections," 9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 25-29, 2010.

4. Roeder, C.W., and Lehman, D.E., (2010) "Concrete Filled Steel Bridge Piers for Improved Seismic Performance and Rapid Construction," 9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 25-29, 2010.

5. Roeder, C. W, Lehman, D.E., Jellin, A.R., and Brackmann, (2010) "Improved Pile-to-Wharf Connections to Reduce Seismic Damage of Wharfs," 9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 25-29, 2010.

6. Lehman, D.E., Roeder, C.W., Tsai, K-C, Hsiao, P-C, Lumpkin, E., Wei, Y-C, Wu, A-C, and Tsai, C-Y (2010) "Experimental Performance and Analytical Simulation of Three Story Full Scale Concentrically Braced Frame System," 9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 25-29, 2010.

7. Roeder, C.W., Lehman, D.E., Lumpkin, E., and Hsiao, P-C, (2009) " Seismic Evaluation and Rehabilitation of Concentrically Braced Frames," 2009 ATC/SEI Conference on Improving the Seismic Performance of Existing Buildings and Other Structures, San Francisco, CA, Dec 9-11, 2009.

8. Roeder, C.W., and Lehman, D.E., (2009) "Research on Rapidly Constructed CFT Bridge Piers Suitable for Seismic Design," ASCE, TCLEE 2009 Conference, Oakland, CA, June 29-July 1, 2009.

9. Lehman, D.E., Roeder, C.W., (2009) "Improving the Seismic Performance of Pile-to-Wharf Connections," ASCE, TCLEE 2009 Conference, Oakland, CA, June 29-July 1, 2009.

10. Roeder, C.W., and Lehman, D.E. (2009) "Performance and Behavior of Gusset Plate Connections," North American Steel Construction Conference, AISC, Pheonix, Arizona, April 2009.

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Schneider, S.P., Roeder, C.W. and Carpenter, J.E., "Seismic Performance of Weak-Column Strong-Beam Steel Moment Resisting Frames," Final Report to NSF, September 1991 (301 pgs.).

Brown, C.B., Eberhard, M.O., Kramer, S.L., Roeder, C.W. and Stanton, J.F., "Preliminary Investigation of the Alaskan Way Viaduct," Report WA-RD 265.1 WSDOT, Olympia, WA, April 1992.

Roeder, C.W., "Fatigue Cracking in Modular Expansion Joints", Report WA-RD 306.1 WSDOT, Olympia, WA, June 1993.

Roeder, C.W., "Subscale Testing of Composite Panels," SGEM Report 94-3, Dept. of Civil Engineering, U. of Washington, Seattle, WA 1994.

Roeder, C.W., Leon, R. T., and Preece, F.R., "Strength, Stiffness and Ductility of Older Steel Structures Under Seismic Loading," SGEM Report 94-4, Dept. of Civil Engineering, U. of Washington, Seattle, WA 1994.

Roeder, C.W., "Field Measurements of Dynamic Wheel Loads on Modular Expansion Joints," Report WA-RD369.1, WSDOT, Olympia, WA 1995.

Roeder, C.W., MacRae, G.A., Arima, K., Crocker, P.N., and Wong, S.D., “Fatigue Cracting of Riveted Steel Tied Arch and Truss Bridges,” Report WA-RD447.1, WSDOT, Olympia, WA 1998.

Roeder, C.W., Scott, K., and MacRae, G., Evaluation of Seismic Vulnerability of Substation Buildings, Final Report to PEER-PG&E Program, Berkeley, CA, February 1999.

MacRae, G., Morrow, D., and Roeder, C.W., Near-Field Ground Motion Effects on Short Structures, Final Report to PEER-PG&E Program, Berkeley, CA, February 1999.

Roeder, C. W. (1999). "LRFD Design Criteria for Cotton Duck Pad (CDP) Bridge Bearing," Final Report on NCHRP Project 20-07/99, National Cooperative Highway Research Program, Transportation Research Board, National Research Council, Washington, D.C.

Roeder, C.W., Coons, R.G., and Hoit, M., "Simplified Design Models for Predicting the Seismic Performance of Steel Moment Frame Connections," Report No. SAC/BD-00/15, SAC Joint Venture, 555 University Ave, Suite 126, Sacramento, CA, 2000.

Roeder, C.W., “Thermal Movement Design Procedure for Concrete Bridges”, Final Report to NCHRP 20-7, National Research Council, Washington, D.C., 1999 (Rev. 2002).

Roeder, C.W., Barth, K.E., Bergman, A., and Christopher, "R.A., "Improved Live Load Deflection Criteria for Steel Bridges," Interim Report to NCHRP 20-7, National Research Council, Washington, D.C., 2001.

Roeder, C.W., MacRae, G.A., Kalogiros, A.Y., and Leland, A., "Fatigue Cracking of Riveted, Coped, Stringer-to-Floorbeam Connections," Final Report, WA-RD 494.1, Washington Dept. of Transportation, Olympia, WA, 2001.

Roeder, C.W., Graff, R., Soderstrom, J.L., and Yoo, J.H., (2001) "Seismic Performance of Pile-Wharf Connections," PEER Report 2002/07, PEER Center, University of California, Berkeley, CA, December 2001.

Roeder, C.W, Barth, K., and Bergman, A., "Improved Live Load Deflection Criteria for Steel Bridges," Final Report, NCHRP Project 20-07/133, National Research Council, Washington, DC. 2002.

Roeder, C.W., Lehman, D.E., and Larson, R., (2002) "Strength, Stiffness and Durability of Cotton Duck Bearing Pads for Bridge Applications," Final Report to Arkansas State University, Dept. of Civil Engineering, U. of Washington, Seattle, WA, August 2002.

Lehman, D.E., Roeder, C.W., and Larson, R. (2003) "Cotton Duck Bearing Pads: Engineering Evaluation and Design Recommendations," Final Report, WA-RD 569.1, Washington Dept. of Transportation, Olympia, WA, 2003.

Roeder, C.W., Lehman, D.E., and Wilson, T. (2003) "Army Structural Applications using Concrete Filled Vanadium-Alloy Steel Tubes," Final Report to Vanadium Partners Cooperative, ATI Corporation, Charleston, South Carolina.

Roeder, C.W., (2005) "Load Test and Fatigue Stress State Evaluation for Granite Falls Bridge #102, Granite Falls, WA," report to CES Inc, Olympia, WA.

Roeder, C.W., (2005) " Evaluation and Recommendations for Lateral Bearings of the Cooper River Bridge," report to Parsons Brinckerhoff Quade & Douglas, New York, NY, and Palmetto Bridge Constructors, Charleston, SC.

Stanton, J.F., Roeder, C.W., and McKenzie, " Improved Rotational Limits for Elastomeric Bearings", Final Report, NCHRP 12-68, National Research Council, Washington, D.C.

Stanton, J.F., Roeder, C.W., McKenzie-Helnwein, P., White, C., Kuester, C., and Craig, B. (2008) "Rotation Limits for Elastomeric Bearings," NCHRP Report 596, National Research Council, Washington, D.C.

Other significant research dissemination (web sites, software, Wikis, etc.)

OTHER SCHOLARLY ACTIVITY

Invited lectures and seminars.

1. Eccentrically Braced Frames, Massachusetts Institute of Technology, Department of Civil Engineering, 1977.
2. Eccentrically Braced Frames, Carnegie Mellon University, Department of Civil Engineering, 1977.
3. Eccentrically Braced Frames, Arizona State University, Department of Civil Engineering, 1977.
4. Eccentrically Braced Frames, University of Southern California, Department of Civil Engineering, 1979.
5. Eccentrically Braced Frames, University of Texas, Department of Civil Engineering, 1981.
6. Design of Eccentrically Braced Frames, Structural Engineers Meeting, Anchorage, Alaska, 1983.
7. Results of Experiments on Seated Beam Connections," AISC National Engineering Conference, New Orleans, LA, 1987.
8. Comparison of LRFD and Allowable Stress Design Methods for Steel Structures, 5th Seminario de Ingenieria Estructural, San Jose, Costa Rica, November 24, 1990.
9. State of the Art Earthquake Resistant Design for Steel Structures, 5th Seminario de Ingenieria Estructural, San Jose, Costa Rica, November 23, 1990.
10. Composite Members in Seismic Design, U.S.-Japan Workshop on Seismic Design of Corporate and Hybrid Structures, Berkeley, CA, 1992.
11. Bridge Bearing Design, Maryland Dept. of Transportation, Baltimore, MD April 1, 1991.
12. Bridge Bearing Design, North Carolina Dept. of Transportation, Raleigh, NC, April. 29, 1993.
13. Bridge Bearings, Maryland Department of Transportation, Baltimore, MD.1995.
14. Bridge Bearings, North Carolina Department of Transportation, Raliegh, NC.1995.
15. Bridge Bearings, Florida Department of Transportation, Orlando, FL.1996.
16. Development of Composite and Hybrid Systems in the US, US/Japan Seminar on Innovations in Stability Concepts and Methods for Seismic Design in Structural Steel, Honolulu, Hawaii, 1996.
17. Design, Installation and Attachment of Bridge Bearings, National Steel Bridge Symposium, National Steel Bridge Alliance, Chicago, IL., 1996.
18. Bridge Bearings, South Carolina Department of Transportation, Columbia, SC.1996.
19. Bridge Bearings, Massachusetts Department of Transportation, Boston, MA.1996.
20. Overview of Post Northridge Research on Steel Buildings, NSF Northridge Earthquake Research Conference, Los Angeles, CA, August 20-22, 1997(C).
21. Redundancy and Ductility in Steel Moment Frames, Bertero Symposium, University of California, Berkeley, CA 1997.

22. Overview of US Research on Steel Connections Since Northridge, Takanashi Symposium, University of Tokyo, Tokyo Japan 1997.
23. Composite Construction for Seismic Design in US, Architectural Institute of Japan, Osaka, 1997.
24. Elastomeric Bearings for Steel Bridges, Florida Department of Transportation, Talahassee, Dec. 1998.
25. Update on US Steel Moment Frame Connections, Disaster Prevention Research Institute, Kyoto University, Uji, Japan, May 13, 1999.
26. Fatigue Evaluation and Repair of Riveted Steel Bridges, Tokyo Institute of Technology, Tokyo, Japan, May 18, 1999.
27. Activities of Connection Performance TAP - Tasks 5.3 and 7, Update Forum on Steel Research, Marriott Courtyard Hotel, Marina Del Ray, CA, September 1998.
28. Elastomeric Bearings for Steel Bridges, PA Dept of Transportation, Harrisburg, PA, July 14, 1999, W.VA Dept. of Transportation, Charleston, W.VA., March 31, 2000, Iowa Dept. of Transportation, Ames, Iowa, May 16, 2000, Georgia Tech. University, Atlanta, GA, Dec. 9, 2000, Denver, CO, April 3, 2002.
29. Development of Performance-Based Seismic Design Criteria for Steel Moment Frames, University of Patras, Patras, Greece, 25, 2002.
30. Concrete Filled Tubes for Steel Bridge Piers, New Jersey Dept. of Transportation, Rutgers University, Sept. 2002.
31. Designing Steel Frame Building Connections for Seismic Safety and Damage Control, 3rd International Symposium on Structural Steel, Korean Society of Steel Construction, Seoul, Korea, March 2005.
32. Seismic Design of Braced Frame Gusset Plate Connections, Fifth International Conference on Earthquake Resistant Engineering Structures, Skiathos, Greece, May-June 2005.
33. Composite Action in Concrete Filled Steel Tubes, Keynote address, Pacific Structural Steel Conference 2007, Wairakei, New Zealand, 13-16 March, 2007
34. Seismic Performance of Braced Frame Gusset Plate Connnections, University of Canterbury, Christchurch, New Zealand, March 2, 2007.
35. Seismic Performance of Braced Frame Gusset Plate Connections, University of Patras, Patras, Greece, May 29, 2007
36. Seismic Performance of Gusset Plate Connections, University of Trieste, Trieste, Italy, June 14, 2007
37. Presentation to National Science Foundation NEES Site Review, "Active Membership: Governance and Community," University of California at San Diego, La Jolla, CA July 24, 2007
38. Design and Performance of Special Concentrically Braced Frames with Gusset Plate Connections, Educators Session, North American Structural Steel Conference, Nashville, TN April 2008.

39. Ultimate Strength and Inelastic Behavior of Braced Frame Gusset Plate Connections, Annual Meeting, Structural Engineers Association of Texas, Austin, Texas, October 30, 2009.
40. Fifteen different lectures of the 2011 TR Higgins Lecture on "SCBF Gusset Plate Connection Design" in Pittsburgh, PA; Long Beach, CA; Springfield, IL; New York, NY; Baltimore, MD; Seattle, WA; Portland, OR; Las Vegas, NV; San Francisco, CA; Sacramento, CA; Long Beach, CA; Denver, CO; Minneapolis, MN; Lawrence, KS; Lafayette, IN; Tacoma, WA; during period May 2011 through April 2012.
41. AASHTO Committe T-14, presentation of Specification Proposal on CFST, August 2012 (Chicago), January 2013 (Orlando), June 2013 (Portland, OR), July 2013 (Baltimore), January 2013 (Orlando).
42. AISC T-9 Specification Committee, presentation of Specification proposal for braced frames, June 2009, June 2012, November 2013.

Presentations given at conferences.

1. **C.W. Roeder**. Seismic Resistant Connections for Mixed Steel Reinforced Concrete Structures, Fifth National Meeting of the Universities Council for Earthquake Engineering Research, M.I.T., Boston, Mass., 1978.
2. **C.W. Roeder**. Design of Connections Between a Steel Beam and Concrete Wall of Frame, ASCE National Convention, Atlanta, GA, 1979.
3. **C.W. Roeder**. Seismic Considerations for the Rehabilitation of the Olympic Hotel, Seattle, Washington," Building Rehabilitation Research and Technology for the 1980s, San Francisco, CA 1980.
4. **C.W. Roeder**. Elastomeric Bearings: Problems in Current United States Practice, ACI World Congress on Bearings and Sealants, Niagara Falls, NY 1981.
5. **C.W. Roeder**. Design of Composite Form-Reinforced Slabs for Points Loads," ASCE National Convention, Las Vegas, Nevada, 1982.
6. **C.W. Roeder**. Lateral Stability of Cantilevers with Continuous Elastic Lateral Restraint, Structural Stability Research Council, San Francisco, CA, 1984.
7. **C.W. Roeder**. Stress and Strain Induced by Heat Cambering or Straightening, Conference on Effects of Fabrication Related Stress on Project Manufactures Performance, The Welding Institute, Cambridge, England, 1985.
8. **C.W. Roeder**. Failure Modes of Elastomeric Bearings and Influence of Manufacturing Methods," ACI Conference on Joints and Bearings, San Antonio, 1986.
9. **C.W. Roeder**. Prediction of Deformations due to Heat Curving, ASCE Structures Congress, Orlando, Florida, 1987.
10. **C.W. Roeder**. Results of Experiments on Seated Beam Connections, AISC National Engineering Conference, New Orleans, LA, 1987.

11. **C.W. Roeder**. Composite Design in LRFD, ASCE Annual Conference, Seattle, WA, 1986,
12. **C.W. Roeder**. Heat Curving of Structural Steel, AISC National Engineering Conference, Miami, Florida, 1988.
13. **C.W. Roeder**. Overview of Earthquake Hazards Reduction in Puget Sound Through Improved Building Practices," USGS, Olympia, WA 1988.
14. **C.W. Roeder**. Effects of Imperfection on Structural Performance, ASCE Structures Congress, San Francisco, 1989.
15. **C.W. Roeder**. Thermal Movements in Bridges, 2nd Bridge Engineering Research in Progress, Reno, Nevada, 1990.
16. **C.W. Roeder**. Bridge Bearings, 2nd Bridge Engineering Research in Progress, Reno, Nevada, 1990.
17. **C.W. Roeder**. Accommodation of Movements in Bridge Design, 7th U.S. Japan Bridge Workshop, Tsukuba, Japan, 1991.
18. **C.W. Roeder**. Behavior of High Load Multi-Rotational Bearings, ACI, 3rd World Congress on Joints and Sealants, Toronto, Canada, 1991.
19. **C.W. Roeder**. Development of Bridge Bearing Provisions for the AASHTO/LRFD Bridge Specification, ACI, 3rd World Congress on Joints and Sealants, Toronto, Canada, 1991.
20. **C.W. Roeder**. Strength, Stiffness and Ductility of Older Steel Frame Structures, 3rd ICOSCCR, Fukuoka, Japan, 1991.
21. **C.W. Roeder**. Seismic Behavior of Older Steel Structures, ASCE Structures Congress, San Antonio, Texas, April 1992.
22. **C.W. Roeder**. Behavior of Weak Column Strong Beam Steel Frames, 10th World Conference on Earthquake Engineering, Madrid, Spain, 1992.
23. **C.W. Roeder**. Effect of Composite Action on the Seismic Performance of Older Steel Structures, Engineering Foundation, Composite Construction II, Potosi, MO, 1992.
24. **C.W. Roeder**. Low Temperature Behavior of Bridge Bearings, 8th U.S.-Japan Bridge Engineering Workshop," Chicago, IL, 1992.
25. **C.W. Roeder**. Composite Members in Seismic Design, U.S.-Japan Workshop on Seismic Design of Corporate and Hybrid Structures, Berkeley, CA, 1992.
26. **C.W. Roeder**. Fatigue and Dynamic Load Measurements on Modular Expansion Joints, 10th U.S.-Japan Bridge Engineering Workshop," North Lake Tahoe, Nevada, 1994.
27. **C.W. Roeder**. Seismic Performance of Older Steel Structures, 5th US Conference Eq. Engineering, Chicago, IL 1994.
28. **C.W. Roeder**. Fatigue Cracking of Modular Bridge Expansion Joints, 73rd TRB Annual Meeting, Washington, D.C., 1994.

29. **C.W. Roeder**. Dynamic Characteristics of Modular Bridge Expansion Joints, 73rd TRB Annual Meeting, Washington, D.C., 1994.
30. **C.W. Roeder**. Seismic Performance of Steel Frames with PR Connections in Old Steel Structures, ASCE Structures Congress, Boston, MA 1995.
31. **C.W. Roeder**. An Evaluation of Cracking Observed in Steel Moment Frames, 7th US Japan Workshop on Improvement of Structural Design and Construction Practices , Kobe, Japan, 1996.
32. **C.W. Roeder**. Development of Composite and Hybrid Systems in the US, US/Japan Seminar on Innovations in Stability Concepts and Methods for Seismic Design in Structural Steel, Honolulu, Hawaii, 1996.
33. **C.W. Roeder**. CFT Research in the US Japan Program, ASCE Structures Congress, Portland Oregon, 1997.
34. **C.W. Roeder**. An Evaluation of Cracking Observed in Steel Moment Frames, ASCE Structures Congress, Portland Oregon, 1997.
35. **C.W. Roeder**. Design, Installation and Attachment of Bridge Bearings, National Steel Bridge Symposium, National Steel Bridge Alliance, Chicago, IL., 1996.
36. **C.W. Roeder**. Column Cracking in Steel Moment Frames, 5th International Colloquium on Stability and Ductility of Steel Structures, Nagoya, Japan, 1997.
37. **C.W. Roeder**. Overview of Post Northridge Research on Steel Buildings, NSF Northridge Earthquake Research Conference, Los Angeles, CA, 1997.
38. **C.W. Roeder**. Cracking and Ductility in Steel Moment Frames, NSF Northridge Earthquake Research Conference, Los Angeles, CA, 1997.
39. **C.W. Roeder**. Correlation of Past Connection Experiments with Seismic Behavior, NSF Northridge Earthquake Research Conference, Los Angeles, CA, 1997.
40. **C.W. Roeder**. Instrumentation and Fatigue Evaluation of I-5 Toutle and Lewis River Bridges, FHWA Nondestructive Evaluation Workshop, Portland, Oregon, June 1998.
41. **C.W. Roeder**. Stress Transfer Between Steel and Concrete in Composite and Hybrid Construction, Structural Engineering World Congress, San Francisco, July 1998.
42. **C.W. Roeder**. Design Models for Moment Resisting Steel Construction, Structural Engineering World Congress, San Francisco, July 1998.
43. **C.W. Roeder**. Research on CFT column systems, 12th World Conference on Earthquake Engineering, Auckland, New Zealand, Jan. 30 - Feb 4, 2000.
44. **C.W. Roeder**. Performance of moment-resisting connections, 12th World Conference on Earthquake Engineering, Auckland, New Zealand, Jan. 30 - Feb 4, 2000.

45. **C.W. Roeder**. Doubler Plates and Continuity Plates for Seismic Resistant Connections, US-Japan Workshop on Seismic Fracture Issues in Steel Structures, San Francisco, CA Feb. 28-Mar. 1, 2000.
46. **Roeder, C.W**, and MacRae, G.A., "Extending the Fatigue Life of Riveted Coped Stringer Connections," *Proceedings*, 5th National Workshop on Bridge Research in Progress, Minneapolis, MN, October 2001.
47. **Roeder, C.W.** and Lehman, D.E. "Improved Performance of Pile-Wharf Connections," 6th Annual NEES Meeting, Portland, Oregon, June 2008.
48. **Roeder, C.W., and Dawn Lehman,** "Further Developments in Rapid Construction of Bridge Piers and Foundations," by Dawn Lehman and me to the Washington State County Road Administration Board Annual meeting, Nov. 3, 2010.
49. **Roeder, C.W.,** and Dawn Lehman, CFT research results to Federal Highway Administration engineers in Washington, D.C., August 13, 2010
50. **Roeder, C.W.**, Jeff Berman, Dawn Lehman, Aaron Olson, and Bo-Shiuan Wang "University of Washington Gusset Plate Research," presented to a Riveted Gusset Group organized and funded by FHWA in Washington, D.C., November 10, 2010
51. This list includes presentations made without a written paper. Please see the list of conference proceedings for additional presentations.

Professional society memberships.

Life Member, American Society of Civil Engineers.
Fellow, Structural Engineering Institute
Member, Earthquake Engineering Research Institute.
Member, American Institute of Steel Construction.
Member, Structural Engineers Association of Washington

Other

Professional Licenses

Register Professional Engineer, Colorado # 12449
Registered Civil Engineer, Washington # 0017243.

Professional Reviews

ASCE Journal of Structural Engineering	100+
ASCE Journal of Bridge Engineering	19
TRB Transportation Research Record	11
Earthquake Engineering and Structural Dynamics	22
Structural Engineering	18
International Journal of Steel Structures	25
ASME	5
Steel Design Textbooks	2
Structural Analysis Textbooks	2
AISC Engineering Journal	*20*

ASCE Journal of Engineering Mechnanics	4
EERI Spectra	23
NSF Proposals	116

GRADUATE STUDENTS

Chaired Doctoral Degrees

Student Name	Dissertation Title	Completed (Year)	Current Employer
Shashi Moorty Kuppa	Thermal Movements in Bridges	1990	US Dept. of Transportation
Stephen P. Schneider	Seismic Performance of Moment-Resisting Steel Frames	1991	Berger/ABAM
Jung-Han Yoo - *D.E. Lehman co-Chair*	Analytical Investigation of the Seismic Perfromance of Special Concentrically Braced Frames	2006	Seoul University of Technology
Po-Chien Hsiao - D. E. Lehman Co-Chair	Simulation Methods for Concentrically Braced Frames	2012	Post-Doc Fellow, JSPS, Kyoto Univ
Keith Palmer - D. E. Lehman Co-Chair	Seismic Behavior, Performance and Design of Steel Concentrically Braced Frame Systems	2012	Simpson Gumpertz and Heger
Bo-Shiuan Wang - Co-Chair to Jeff Berman	Analytical Study of Gusset Plate Joints in Steel Truss Bridges and Development of Assessment Procedures	2013	Buckland and Taylor

Chaired Masters Degrees

Student Name	Level of Supervision	Thesis/Paper Title	Completed (Year)	Current Employer
C.L. Hsu	Thesis	The Behavior of Single-Plate Welded-Bolted Connections Incorporating Headed Steel Connectors	1978	Own Consulting Firm in Taipei
J.F. Yau	Project	An Investigation of Fatigue Problems on a Frame Structure Under Wave Action"	1978	
S. Mahini	Project	Seismic Behavior of Mixed Structural Systems	1979	
V. Koiv	Project	A Study of the Behavior of Embedded Steel Shearwall-Frame Connectors,	1979	

M.T. Wang	Thesis	The Behavior of Steel Structures to Shear Wall Connections Under Tension	1979	
M. Assadi	Thesis	Lateral Stability of Beams with Tension Flange Restraint	1981	
C.M. Su	Thesis	Behavior of Composite Floor Slabs Under Concentrated Loads	1980	
M. El Masri	Project	Web Stiffener Design for Beams Undergoing Cyclic Shear Yielding	1982	
K. Gottleaber - *J. Stanton co-Chair*	Thesis	Comparison of Major Design Specifications for Designing Elastomeric Bridge Bearings"	1982	
M. Ehredt	Thesis	Experimental Analysis of Plaster Strains Due to Heat Curving"	1982	
D. Stensby	Project	A Finite Element Solution to the Flame Bending Problem"	1983	
W.P. Hanson	Thesis	A Study of the Bonding Mechanism in Mixed Steel-Concrete Columns	1983	
V. Lee	Thesis	The Analysis of Point Loads on Composite-Deck-Reinforced Slabs	1983	
K. Marashi	Project	Effect of Reinforcement, Wide Flange Column Depth and Concrete Strength on Bonding Mechanism on Mixed Steel-Concrete Columns	1983	
L. Eltvik	Thesis	A Field Test of the Whitechuck River Bridge: Investigation of Autostress Design	1983	
A. Chu	Project	Lateral Stability of I-Beams with Elastic Torsional Restraint and Full Tension Flange Lateral Displacement Restraint	1983	
A. Suryadinata	Project	Experimental Study of Lateral Stability of a Cantilever I-Beam with Tension Flange Restraint	1984	
S. Clark	Thesis	An Experimental Analysis of Heat Curving on Steel Plates and Columns	1984	Magnusson Klemencic
S. Schneider	Thesis	A Thermo-Plastic Finite Element Analysis to Predict the Behavior of Flame Cambered Beams	1984	Kramer Ghelen
A. Taylor	Thesis	A Study of the Behavior of Simply Supported Composite Beams	1985	KPFF
R. Paananen	Project	The Use of Elastomeric Dock Fenders in Marine Landing Structures	1985	WSDOT
K. Curry - *J. Stanton co-Chair*	Thesis	Compression and Shear Tests of Reinforced Bearings of Different Shapes and Sizes	1985	
J. Meeker	Project	Cable Stays	1986	
R. Dailey	Thesis	Experimental Study of Seated Beam Connections with Rigid and Flexible Bearing Seats	1986	
W. Malkowicz	Project	A Three-Dimensional Finite Element Analysis of Bond Transfer Using ADINA	1986	
T. Bykonen	Project	Dynamic Analysis of Mud Mountain Dam Intake Tower Including Hydrodynamic Effects	1986	

N. Hoke	Thesis	A Study of Brace Behavior in a Full Scale Six Story Steel Structure	1986	
M. Tang	Thesis	The Analysis of the Failure of a Six Story Steel Building with Brace to Beam Connections	1988	
N. Afeiche	Thesis	Continuously Heat-Curved Mild Steel Plate	1989	
T. Feller	Thesis	Low Temperature Performance of Elastomeric Bearings	1989	
L. Harrington	Project	Seismic Response of an Elevated Water Tank	1989	Seattle Water Dept
P. Favre	Project	Thermal Movements in the Casper Creek Bridge	1989	
B. Trapp	Project	Structural Design Under the 1985 and 1988 UBC: A Comparative Analysis	1990	
Gregory Lee	Thesis	Seismic Behavior of Weak Column-Strong Beam Steel Frames"	1990	Reid-Middleton
Kent T. Ferguson	Thesis	Effect of Panel Zone Thickness on Seismic Response of Steel Moment Resistant Frames	1991	
G. Gilbert - *J. Stanton co-Chair*	Thesis	Testing of High-Load Multi-Rotational Pot Bearings	1991	
Eric Thomas	Thesis	The Effect of Concrete Encasement on the Strength, Stiffness and Ductility of Seated-Beam Connections	1992	
Brett Knechtel	Thesis	The Effect of Concrete Encasement on the Strength, Stiffness and Ductility of Steel T-Stub Connections"	1992	
Katerina Grauer	Project	Case Study of Thermal Effects on Broadway Avenue Underpass	1990	
Lisa Wipplinger	Project	Analysis of the Alaskan Way Viaduct	1992	
Yan Liu	Thesis	Test Apparatus for Composite Panel Tests	1993	
Mark Hildahl	Thesis	Fatigue Cracking of Modular Expansion Joints	1993	
Anne Vaneaton	Thesis	Development of a Beam Element with Semi-Rigid Connections"	1994	
Diana Flores	Project	An Evaluation of Integral Abutment Bridge Behavior"	1994	
Mary Demars	Thesis	Development of a Contour Temperature Map for Design of Thermal Movements in Composite Bridges"	1994	UW College of Engr
Sean Smith	Thesis	Parametric Analysis of Dynamically Loaded Concentrically Braced Steel Frames Allowed to Uplift	1995	
Garth Berninghaus	Thesis	Stress Distribution in Welded Flange-Bolted Web Connections"	1995	
Mitchell Tallman	Thesis	The Effect of Concrete Encasement on the Strength, Stiffness and Ductility of Steel Double Web Angle Connections	1995	
Debbie Jung	Thesis	A Case Study Analysis of Seismic Effects of Wall Uplift in Reinforced Concrete Structures	1995	

Peter Chia-Yu Lee	Thesis	The Effect of Concrete Encasement on the Strength, Stiffness and Ductility of Clip Angle Beam-to-Column Connections	1995	
Kim Long	Project	Pilot Study on Retrofitting Damaged Steel Buildings by Composite Construction	1995	
Todd St. George	Thesis	Testing of Thin-Walled Curved Aluminum Z-Beams	1996	KPFF
Patrick Harrigan	Thesis	Possible Causes of Cracking in Steel Moment Resistant Frames During the 1994 Northridge Earthquake	1996	
Jason Emoto	Thesis	Bond Shear Demand in Composite Concrete and Steel Members	1996	Reid Middleton
Brian Aldrich	Thesis	Design Temperatures for Composite Bridges in the United States	1996	WSDOT
Kenneth Wilson	Project	Fatigue Evaluation for the Nooksack River Bridge 5/828E	1996	
Richard A. Dethlefs	Project	Case Study of Thermal Effects on 148th Avenue NE Undercrossing (SR520/36) Bridge	1996	
Brad Cameron	Thesis	Bond Behavior in Concrete Filled Tube Composite Columns	1997	Magnusson Klemencic
Paul Crocker	Thesis	Behavior and Fatigue of the Toutle River Bridge, a Tied-Arch, Steel Bridge on Interstate 5, Castle Rock, WA	1997	Magnusson Klemencic
Garo Pehlivanian	Thesis	Case Study: Evaluation of a Building's Moment Framing System Which Suffered Cracking During the Northridge Earthquake	1997	Coughlin Porter Lundeen
M. Hoit	Thesis	An Investigation in the Seismic Design of Flange Plated Moment Resistant Connections"	1997	
R. Chmeilowski	Thesis	Force Transfer in Steel Columns Encased in Concrete	1997	Magnusson Klemencic
P. Santos	Thesis	Analysis of Bond Stress Using ANSYS.	1998	
Kimberley Scott	Thesis	Evaluation of the Seismic Vulnerability of Substation Buildings.	1998	
Greg Coons	Thesis	Seismic Design and Database of End Plate and T-Stub Connections.	1999	Swenson Say Faget
Amy Skare	Thesis	Fatigue Cracking and Repair of Coped Steel Bridge Stringers	1999	WSDOT
Mark Gaines	Thesis	A Study of Concrete Filled Steel Tube Columns in Bridge Design	2000	WSDOT
Robert Graff	Thesis	Seismic Evaluation of Prestressed Pile-Wharf Connections	2001	Degenkolb San Francisco
Jennifer Soderstrom	Thesis	Seismic Evaluation of Prestressed and Reinforced Concrete Pile-Wharf Deck Connections	2001	City of Ketchikan
Jung Han Yoo	Thesis	Dynamic Analysis of Pile-to-Wharf Connections	2001	

Chad Gunderson - Greg MacRae co-Chair	Thesis	Braced Frame Connections with Concrete Filled Tube (CFT)Columns	2002	
Adam Bergman	Thesis	Evaluation of the Current use of AASHTO Live Load Deflection Limits in Steel Bridges	2002	
Mellissa McKenry - *Greg MacRae co-Chair*	Thesis	Behavior of Concrete Filled Steel Tubes in Concentrically Braced Frames	2002	
Russell A. Larsen - *Dawn Lehman co-Chair*	Thesis	Strength, Stiffness, and Durability of Cotton Duck Bearing Pads for Bridge Applications	2003	Magnusson Klemencic
Ingvar Gunnarson - *Dawn Lehman co-Chair*	Thesis	Numerical Performance Evaluation of Braced Frame Systems	2004	
Shawn Johnson - *Dawn Lehman co-Chair*	Thesis	Improved Seismic Performance of Special Concentrically Braced Frames	2005	
Adam Christopulos - *Dawn Lehman co-Chair*	Thesis	Improved Seismic Performance of Buckling Restrained Braced Frames	2005	DCI Engineers
Angela Kingsley - *Dawn Lehman co-Chair*	Thesis	Experimental and Analytical Investigation of Embedded Column Base Connections for Concrete Filled High Strength Steel Tubes	2005	U. of Minnesota
Travis Williams - *Dawn Lehman co-Chair*	Thesis	Experimental Investigation of High Strength Concrete Filled Steel Tubes in Embedded Column Base Foundation Connection (Co-Chaired with Dawn Lehman)	2006	KPFF
David Herman - *Dawn Lehman co-Chair*	Thesis	Further Improvements on and Understand of Special Concentrically Braced Frame Systems	2006	KPFF
Ryan Thody - *Dawn Lehman co-Chair*	Thesis	Experimental Investigation of the Flexural Properties of High-Strength Concrete-Filled Steel Tubes	2006	Coughlin Porter Lundeen
Brandon Kotulka - *Dawn Lehman co-Chair*	Thesis	Analysis for a Design Guide on Gusset Plates used in Special Concentrically Braced Frames	2007	
Amanda Jellin - *Dawn Lehman co-Chair*	Thesis	Improved Seismic Resistant Connections for Pile-Wharf Construction	2008	HDR
Kelly Clark - *Dawn Lehman co-Chair*	Thesis	Experimental Performance of Multi-Story X-Braced SCBF	2009	Teaching Pre-Engr
Jacob Powell - *Dawn Lehman co-Chair*	Thesis	Evaluation of Special Concentrically Braced Frames for Improved Seismic Performance and Constructability		KPFF
Emily Brackman - *Dawn Lehman co-Chair*	Thesis	Performance Tools for Piles and Pile-to-Wharf Connections	2009	Moffit and Nichol, SF
Erik Bishop - *Dawn Lehman co-Chair*	Thesis	Evaluation of the Flexural Resistance and Stiffness Models for Circular Concrete Filled Steel Tube Members Subjected to	2009	Reid Middleton

		Combined Axial-Flexural Loading		
Stuart Stringer - *Dawn Lehman co-Chair*	Thesis	Seismic Performance of Improved Damaage Resistant Pile to Wharf Deck Connections	2010	ABAM
Eric Lumpkin - *Dawn Lehman co-Chair*	Thesis	Enhanced Seismic Performance of Multi-Story Special Concentrically Brace Frames Using a Balanced Design Procedure	2009	Thornton & Tomesetti KC
Aaron Olson - *Jeff Berman and Dawn Lehman co-Chairs*	Thesis	Triage Evaluation of Gusset Plates in Steel Truss Bridges	2010	KPFF
Jason Lee - *Dawn Lehman co-Chair*	Thesis	Experimental Investigation of Embedded Connnections for Concrete-Filled Steel Tube Columns Subjected to Combined Axial-Flexural Loading	2011	KPFF
Kenneth ONeill - *co-chair to Dawn Lehman*	Thesis	Experimental Investigation of Circular Concrete Filled Steel Tube Geometry on Seismic Performance	2011	
Saura Jost - *Jeff Berman and Dawn Lehman co-Chairs*	Thesis	Behavior of Riveted Connections in Steel Truss Bridges	2012	
Arni Gunnarson (co-chair to Dawn Lehman)	Thesis	Creep, Shrinkage, and Seismic Performance of Concrete-Filled Tubes with Conventional and Supplementary Cenentitious Materials Concrete	2011	Iceland

RESEARCH ACTIVITIES

Funded Research

Funding Agency	Title	Total Amount (Subs)	University Matching, if any	Your Amount	Your Role, Other Pi's co-Pi's	Dates (start-finish)
PACTRANS	High Performance Bridge Systems" PACTRANS- This is our portion of a larger research effort.	$50,000		$50,000	PI w/ Dawn Lehman Co-PI	8/1/13 to 10/31/14
WSDOT	Shear Design Expressions for CFT and RCFT Bridge Components	$250,000		$250,000	PI w/ Dawn Lehman Co-PI	9/16/13 to 9/15/15
PACTRANS	Concrete Filled Tubes	$45,000		$45,000	PI with Dawn Lehman Co-PI	2013-14
CALTRANS	Concrete Filled Tube Bridge Pier Connections for Accelerated Bridge Construction	$399,539		$399,539	Co-PI to Dawn Lehman	2012-15
NSF	NEESR: Collaborative Developments for Seismic Rehabilitation of Vulnerable Braced Frames	$991,335 plus $10,500 REU and $100,000 from AISC		$700,000	PI with Dawn Lehman & Jeff Berman as Co-PIs	2012-15
PACTRANS	Concrete Filled Tubes	$45,000		$45,000	Co-PI Dawn Lehman	2012-13
WSDOT	Determining the Cost/Benefit of Routine Maintenance/Cleaning of Steel Bridges to Prevent Structural Deterioration	$175,000		$175,000	Co-PI PI-Jeff Berman	2011-2013

TRANSNOW					Co-PI PI: Lehman	
PEER	Damage Resistant Pile to Wharf Connections	$67,076.00	0	$67,076.00	PI Co-PI Lehman	2009-2011
WSDOT	Design of Bridge Foundations with Steel Casings	$124,338	0	$124,338	PI Co:PI Lehman	2009-2011
WSDOT/ FHWA	Simplified Evaluation of Gusset Plate Connections in Steel Truss Bridges	$100,000	0	$100,000	CoPI PI: Berman	2008-09
CALTRANS	Rapid Construction of Bridge Piers with Improved Seismic Performance	$389,517	0	$389,517	CoPI, PI: Lehman	2007-11
NSF	NEESR-SG: International Hybrid Simulation of Tomorrow's Braced Frame Systems, plus international travel supplement	$1,596,100 ($532,570)	0	$1,063,530	PI Co-PI: Lehman	2006-11
AISC	Material Donations and supplemental funding for braced frame research. Steel donation estimated at $800 per ton	$230,000	0	$230,000	PI Co-PI: Lehman	2006-10
NSF as sub to Georgia Tech	Seismic Resistance of Pier to Wharf Connections	$270,000	0	$270,000	PI Co-PI: Lehman	2005-10
AFPPA	Testing of the Lateral Torsional Stability of Timber Members	$30,000	0	$30,000	PI	2004-07
NCHRP	Improved Rotational Limits of Elastomeric Bearings	$350,000	0	$350,000	Co-PI PI (Stanton)	2005-06
NSF	Performance Based Design of Concentrically Braced Frames including REU Supplement	$311,278	0	$311,278	PI Co-PI: Lehman	2003-06
US Army Research	Vanadium Alloy Steel Tubes for Pile and Concrete Filled Tubular Columns	$863,978	0	$863,978	PI Co-PI:	2003-07

through ATI Corp.	in Civil Engineering Structures				Lehman	
WSDOT	Cotton Duck Bearing Pads	$45,000	0	$45,000	PI Co-PI: Lehman	2002-03
Arkansas State Univ.	Cotton Duck Elastomeric Pad Study	$93,000	0	$93,000	PI Co-PI: Lehman	2000-02
NCHRP	NCHRP 20-7/133 Evaluation of Live Load Deflection Limits	$50,000 ($5,000)	0	$45,000	PI	2000-01
NSF	Concrete Filled Tube Braced Frame Testing	$234,121	0	$234,121	PI Co-PI: MacRae	1999-2001
PEER	Evaluation of Wharf Pier-Pile Connections	$140,000	0	$140,000	PI	1999-2001
WSDOT	Repair of Steel Bridge Cracking	$162,000	0	$162,000	PI Co-PI: MacRae	1998-2000
PEER/ PG&E	Seismic Building Evaluation of Infilled Steel Frames and near Field Effects	$120,000	0	$120,000	PI Co-PI: MacRae	1997-98
CUREE SAC JVC	Development of Simplified Models for Connections in Steel Frame Structures	$70,000	0	$70,000	PI	1997-98
AISI	Thermal Movement Design Procedure for Steel Bridges	$46,500	0	$46,500	PI	1995-96
WSDOT	Steel Bridge Cracking	$175,000	0	$175,000	PI Co-PI: MacRae	1995-97
NSF	Evaluation of Column Cracking in Steel Moment Frames	$65,000	0	$65,000	PI	1994-95
NSF	Development of Guidelines for Heat Straightening	$20,750	0	$20,750	PI	1994-95
WSDOT	Field Measurements of Loading of Modular Expansion Joints	$74,990	0	$74,990	PI	1993-94

WSDOT	Preliminary Investigation of Fatigue Cracking in Modular Expansion Joints	$38,900	0	$38,900	PI	1992-93
NSF	Investigation of Foundation Rehabilitation Strategies	$155,423	0	$155,423	PI Co-PI: Banerjee	1993-95
Boeing Company	Similitude of Composite Panels	$175,625	0	$175,625	PI	1992-94
Boeing Company	Beam Crippling Experiments	$28,340	0	$28,340	PI	1992
NSF	Evaluation of the Strength, Stiffness and Ductility of Older Steel Frame Structures including REU Supplement	$300,000 (150,0000	0	$150,000	PI	1990-94
AFOSR	Instrumentation for Data Acquisition and Control of Structural Experiments	$80,160	$20,000	$100,210	PI	1988-89
NCHRP	High-Load Multi-rotational Bridge Bearings	$150,000	0	$150,000	PI	1989-92
NSF	Consistent Criteria for Seismic Design of Weak Column Strong Beam Steel Frames	$150,000	0	$150,000	PI	1989-91
NSF	Evaluation of Thermal Movements in Existing Bridges	$125,852	0	$125,852	PI	1988-90
NCHRP	Elastomeric Bridge Bearings - Phase III	$150,000	0	$150,000	PI CoPI: Stanton	1986-89
NSF	US-Japan Joint Seminar on Composite and Mixed Construction	$9,700	0	$9,700	Co-PI PI: Hawkins	1984-85
NSF	Interpretation and Dissemination of Phase I and II Test Results for the US-Japan Full Scale Test Structure (Steel) with supplement	$84,010	0	$84,010	PI	1985-88
NSF	Repair of Seismic Damage to Steel Structures	$111,570	0	$111,570	PI	1982-85
NSF	Seismic Behavior of Steel Frame Buildings with Composite Slabs	$13,200	0	$13,200	PI	1982-84
NCHRP	Elastomeric Bridge Bearings Phase II	$150,000	0	$150,000	PI	1983-86

					Co-PI: Stanton	
AISC/ FHWA	Instrumentation of Whitechuck River Bridge	$83,000	0	$83,000	PI	1981-84
NCHRP	Elastomeric Bridge Bearings - Design, Materials and Construction	$74,715	0	$74,715	Co-PI PI: Stanton	1981-82
UW GSRF	Lateral Stability of Partially Restrained Wide Flange Beams	$5,190	0	$5,190	PI	1979-80
UW GSRF	Connections for Seismic Resistant Composite Structures	$4,050	0	$4,050	PI	1978-79

Pending Proposals

Four proposals are pending as of 4/12/2011. They are jointly submitted with Prof. Lehman or Bermann. Details of these proposals will be added after funding is received.

DOCUMENTATION OF TEACHING EFFECTIVENESS

Courses Taught & Student Evaluations (Last 15 years)

Course	Title	Quarter	Credit Hrs	Enrollment	Evaluations? Response	Item 1	Item 3	Item 4	Avg Items 1-4
CIVE 451	Steel Design	A99	3	7	No	-	-	-	
CESM 514	Earthquake Engineering	Sp00	3	19	No	-	-	-	
CIVE 442	Design Project	Sp00	4	15	No	-	-	-	
CEE 451	Steel Design	W01	3	29	Yes	-	-	-	4.0
CEE 442	Design Project	Sp 01	4	31	No	-	-	-	
CEE 515	Earthquake Engineering	Sp01	3	11	No	-	-	-	
CEE 451	Steel Design	Au01	3	18	Yes	-	-	-	3.36
CEE 513	Advanced Steel Design	W02	3	14	Yes	-	-	-	3.86
CEE 442	Design Project	Sp02	4	16	Yes	-	-	-	2.3
CEE 500	Graduate Seminar	W02	1		No	-	-	-	
CEE 500	Graduate Seminar	Sp 02	1		No	-	-	-	
CEE516	Earthquake Engineering II	Au02	3	13	Yes	-	-	-	3.6
AA210	Statics	W03	4	51	Yes	-	-	-	3.8
CEE451	Steel Design	W03	3	31	Yes	-	-	-	3.4
CEE 515	Earthquake Engineering 1	Sp 04	3	23	Yes	-	-	-	2.9
CEE 513	Advanced Steel	Au 04	3	13	Yes	-	-	-	3.4
CEE 458	Advanced Structures II	W 05	3	29	Yes	-	-	-	3.3
CEE 451	Steel Design	W 05	3	55	Yes	-	-	-	3.2
CEE 599	Bridge Design (shared with John Stanton)	W 05	3	22	Yes	-	-	-	-
CEE 513	Advanced Steel	W 06	3	29	Yes	-	-	-	3.2
CEE 502	Structural Dynamics	W 06	3	26	Yes	-	-	-	2.9
CEE 500	Graduate Seminar	W 06	1	32	Yes	-	-	-	--
CEE 442	Design Project	Sp06	4	37	Yes	-	-	-	--
CEE 516	Earthquake Engineering II	Au 06	3	15	Yes	-	-	-	2.7
CEE 451	Steel Design	Au 07	3	50	Yes (46/50)	3.3	3.5	3.0	3.2
CEE 442	Design Project	Sp 08	4	54	Yes	3.6	3.5	3.4	3.5
CEE 515	Earthquake Engineering	Sp 08	3	19	Yes but can't locate	-	-	-	-
CEE 599	Bridge Design	Au 08	3	24	Yes (19/24)	2.8	2.5	2.6	2.7
CEE 451	Steel Design	W 09	3	43	Yes (28/43)	3.5	3.2	3.3	3.3
CEE 515	Earthquake Engineering	Sp 09	3	20	Yes	3.0	3.8	3.6	3.5
CEE 442	Capstone Design Project	Sp 09	4	36	Yes	3.4	3.2	2.4	2.8

CEE 516	Earthquake Engineering II	Au 09	3	14	Yes				
CEE 452	Steel Design	W 10	3	39	Yes	3.6	3.5	3.3	3.5
CEE 515	Earthquake Engineering	Sp 10	3	27	Yes (19/26)	3.5	3.6	3.6	3.5
CEE 599	Bridge Engineering	Au 10	3	26	Yes (21/26)	2.9	2.9	2.5	2.5
CEE 451	Steel Design	W 11	3	44	Yes (21/44)	3.5	3.7	3.4	2.7
CEE 515	Earthquake Engineering	Sp 11	3	32	Not rated yet				
CEE 500	Graduate Seminar	Sp 11	1	35	Not rated.				
CEE 515	Earthquake Engineering	W 12	3	24	Yes (20/24)	2.3	2.6	2.3	2.3
CEE 380	Structures II	Sp12	4	49	Yes (28/49)	2.8	3.0	2.6	2.0
CEE 516	Earthquake Engineering II	Sp 12	3	17	Yes (14/17)	2.7	2.7	2.6	2.4
CEE 599	Bridge Design	Au 12	3	21	Yes (20/21)	2.3	2.6	2.3	2.4
CEE 500	Graduate Seminar	Sp 12	1		Not Rated				
CEE 515	Earthquake Engineering	Sp 13	3	32	Yes (19/31)	3.5	3.2	3.2	3.1
CEE 500	Graduate Seminar	Sp 13	1	31	Not Rated				
CEE 377	Intro Structural Design	Au 14	5	60	Yes 41/60	3.1	3.8	2.3	3.0
CEE513	Advanced Steel Design	W 14	3	38	Not yet rated				

Independent Study

A number of undergraduate independent studies have been supervised over the years, but I have not maintained a list of them.

List of other teaching contributions

University of Washington Civil Engineering Refresher Course for the Professional Engineering Exam, from 1978 through 1988.

University of Washington, Department of Civil Engineering Refresher Course on Earthquake Engineering, 1992- 96.

Development of a Bridge Design Course, NBE and University of Maryland, Baltimore, MD. (1993-1998)

Federal Highway Administration Course on Bridge Design - University of Maryland (2 times), Florida Dept. of Transportation, Illinois Dept. of Transportation, Massachusetts Dept of Transportation, Pennsylvania Dept. of Transportation, New York Dept. of Transportation, Virginia Dept. of Transportation (1 time each) - 1992 - 1999

Short course on Composite Structural Systems, Tsinghua University, Beijing, China December 2012

SERVICE

Departmental service

1977-78	Departmental Research Committee
1980-82	Department of Civil Engineering Graduate Education Committee
1980-82	Graduate Advisor for Structures and Geotechnical Program
1986-91	Program Director, Structures and Geotechnical Program

1985-95	Director of Structures Research Laboratory
1988	Chair of Committee on Policy for Research Faculty
1996-97	Chair of Construction Faculty Search Committee
1977-00	Member of 9 faculty search committees
2000-01	Group Leader for Structures and Member of Departmental SPC
2003-06	Division Coordinator for Structures and Geotechnical Groups

College service

1982-82	College of Engineering Committee for Evaluation (and termination) of SM & T Department
1992	College of Engineering Committee for Evaluation (and termination) of Nuclear Engineering Department
1985-89	College of Engineering Promotion and Tenure Committee, Chair 1988-89
1991-92	Search Committee for Chair of Aeronautical Engineering Department
1992-95	College of Engineering Computer Committee

University service

Served as the University Graduate School Representative on numerous PhD examining committees for other departments and programs.

University of Washington Earthquake Readiness Advisory Committee, 1990-92 (developed priorities for seismic upgrade of UW buildings).

University of Washington Faculty Senate, 2002-03

Seismic Resistance Study of Olympic Hotel, WA, for University of Washington, Board of Regents (with J. F. Stanton and N. M. Hawkins), April 1979 - Aug. 1979.

Professional society and other service

Member, National Research Council Committee on Structural Connections (1984-1996)

ASCE Committee on Composite Construction, Chairman, 1982 - 1987 (Member, 1979 - 1982).

Member, ASCE Technical Administrative Committee on Metals (1982 - 1987), (1988 - 1993).

Chairman, TRB Committee on Steel Bridges (A2CO2) (1990 - 1996); Member, (1984 - 1996).

Member, TRB Steering Committee for 4th International Bridge Conference (1993 -1995)

Member, ACI Committee 554, Bearings (1983-1989)

Member, NCHRP Advising Panel 12-28 (3), National Research Council.

Member, Steering Committee for Second World Congress on Joint Sealing and Bearing Systems. (1984-86)

Chairman, ASCE Committee on Flexural Members (1988 - 1992) - (Member, 1987 - 1992).

Chairman, ASCE Technical Committee on Seismic Effects (1991 - 1994) (Member, 1989 - 1995).

Chairman, ASCE Technical Administrative Committee on Dynamic Effects (1994 - 1997) ; Member,(1991 - 1997)

Member, ASCE Standards Committee on Condition Assessment of Existing Buildings (1990-Present)

Member, ASCE Standards Committee on Testing of Base Isolation Systems (1994-2002)

Member, ASCE Steering Committee for the 1998 Structural Engineers World Congress (1996-1998)

Member, ASCE Steering Committee for the Update of FEMA 178 Handbook (1996-1997)

Member, Board of Directors of Applied Technology Council, Redwood City, CA (1997-2000) and (2009-2012).

Chair, ASCE-SEI Steering Committee for 2003 Structures Congress (1999-2003

Member, Editorial Board, *Journal of Constructional Steel Research* (2001-Present)

Member, Board of Directors of Consortium of Universities for Research in Earthquake Engineering (CUREE) (2002-2005, and 2010-2013)

Member, Institutional Board, Pacific Earthquake Engineering Research (PEER) Center (1996-Present)

Member Editorial Board, *International Journal of Steel Structures*, Korean Society of Steel Structures, (2003 - Present, Editor in Chief 2010 - Present)

Member, ASCE Structural Engineering Institute Technical Activities Division Executive Committee (SEI EXCOM) (2004-09, and 2010-13) Chair 2007-08 and 2010-12.

Member, Board of Directors, National Earthquake Engineering Simulation Consortium (2004 to 2007).

Member, SEI Conferences Committee, (2004 to 2007 and 2011 to 2013).

Member, Review Panel for Structures Program, Turner-Fairbanks Research Laboratory, Federal Highway Administration, McLean, VA (2005)

Member, Awards Committee, Structural Engineering Institute, ASCE (2008 - present) - Chair 2011 to present.

Associate Editor, *Earthquake Spectra*, Earthquake Engineering Research Institute 2007-2014.

Consulting Experience (Typical – not complete)

Investigation of Composite Floor System, U.S. Navy, Trident Naval Facility, Bangor, WA, March - July 1980.

Investigation of Elastomeric Bearings on MOPAC Structure, Buckland and Taylor, Vancouver, BC and Gulf Canada, Alberta, Canada, 1983.

Investigation of Structural Bearings in Fresno Parking Garage, J.R. Libby & Associates, San Diego, California and City of Fresno.

Review of Thermal Stress Design for Boeing ITDC Building, Austin Company, Seattle, WA.

Engineering consultant on the Columbia Center, Diamond and Sylvester, Seattle, WA, 1986-87.

Consultant to Contractor of Ogden City Mall Parking Garage, Parken & Keck, Salt Lake City 1989-90.

Advice on CFT piles for Jamuna River Bridge, Bangladesh, T.Y.Lin International, San Francisco, CA. (1995)

Team Leader on Steel Frame Connections, CUREe, SAC Joint Venture, Richmond CA (1996 -2001)

Advise contractor and designer on restrainer bearings for Cooper River Bridge in Charleston, South Carolina, through Parsons, Brinckerhoff, Quade and Douglas (New York, NY) and Palomino Constructors (December 2004 to Present)

Expert witness for lawsuit on the ITD/WYE Bridge, Boise, Idaho, through Anderson, Julian & Hull LLP, Boise (Feb-March 2005).

International, national or governmental service

Member of Board of Directors of Applied Technology Council, (a nonprofit corporation), Redwood City, CA 2000-2003 and 2009-2012.

Member, Standards Committee, ANSI/AISC 358, "Prequalified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications," AISC, Chicago, IL June 2005-Present. Team leader for the Steel Chapter.

Steering Committee for Update of FEMA 278, (seismic evaluation provisions for buildings).

Advisor to City of Seattle, for Lift Cylinder Evaluation and Replacement for Spokane Street Bridge (2001-02)

Steering Committee for Update of AASHTO Seismic Design Provisions for Bridges (1999-2002)

Joint Technical Coordinating Committee for US-Japan Program on Seismic Behavior of Steel Structures (1983-88)

Joint Technical Coordinating Committee for US-Japan Program on Seismic Behavior of Composite and Hybrid Structures (1992-1998)

Steering Committee for ASCE/SEI Structures Congress, Chair 2003 Congress, Member for 1998 and 1999 Congresses.

Consultant to NCHRP 12-33 Project for the Development of a new AASHTO Load and Resistance Design Specification 1988-90.

Evaluation of Bearings, Metropolitan Atlanta Rapid Transit Authority, Atlanta, GA. 1991-94.

ATC-33 - Guidelines for Seismic Rehabilitation of Buildings - Steel Structures Group 7, Applied Technology Council, San Francisco, CA., 1993-96

Executive Committee, Structural Engineering Institute, ASCE, Reston, VA 2004 - 2009, and 2010 to present - Chair 2007-2008 and 2010-2012.

Board of Directors, National Earthquake Engineering Simulation Consortium, Davis, CA, 2004 - 2007.

Board of Directors, Consortium of Universities for Earthquake Engineering, Richmond, CA, 2002 to 2008, 2010 to present.

Institutional Board, Pacific Earthquake Engineering Research Center, Berkeley, CA, 1997 to present.

2005 Review Panel for Structures Program, Turner-Fairbanks Research Laboratory, Federal Highway Administration, McLean, VA.

All other service