

General Biographical Information

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Academic Background

Ph.D.	University of California, Berkeley	1977
M.S.C.E.	University of Illinois, Urbana	1971
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Professional History

Professor, Department of Civil Engineering, University of Washington, Seattle, WA, 1985-present.

Associate Professor, Department of Civil Engineering, University of Washington, Seattle, WA, 1981-85.

Assistant Professor, Department of Civil Engineering, University of Washington, Seattle, WA, 1977-81.

Graduate Research Assistant, Department of Civil Engineering, University of California, Berkeley, CA, 1974-1977.

Structural Engineer, J. Ray McDermott, Inc, New Orleans, LA, 1971-74.

General Construction, Shaffer and Son, Palmyra, PA 1960-66.

US Army, 46th Engineering Battalion (Construction), Fort Polk, LA, and South Vietnam 1964-66.

Refereed Journal Publications

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.

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.

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.

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Roeder, C.W., (1985) Bond stress of embedded steel shapes in concrete," Composite and Mixed Construction, ASCE Special Publication, New York, pgs 227-40.
- 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.
- 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.
- Roeder, C.W. and Dailey, R., (1989) Web crippling of seated beam connections, *Engineering Journal*, Vol. 3, No. 26, AISC, Chicago, pgs 90-95.
- Roeder, C.W., (1986) Experimental study of heat-induced deformation, *Journal of Structural Division*, ASCE, ST10, Vol. 112, New York, Pgs 2247-62.
- 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.
- 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.
- 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.
- 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.

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Roeder, C.W. and Moorthy, S., (1991) Thermal movements in bridges, *Transportation Research Record 1290*, Vol. 1, TRB, National Research Council, Washington, DC, pgs 135-43.
- Roeder, C.W. and Stanton, J.F., (1991) Design of laminated elastomeric bridge bearings, *Transportation Research Record 1290*, Vol. 2, TRB, National Research Council, Washington, DC, pgs 199-206.
- Stanton, J.F. and Roeder, C.W., (1992) Elastomeric bearings: an overview, *Concrete International*, ACI, Detroit, MI, pgs 41-46.
- Moorthy, S. and Roeder, C.W., (1992) Temperature dependent bridge movements, *Journal of Structural Division*, ASCE, Vol. 118, No. 4, New York, pgs 1090-1105.
- 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.
- 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.

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

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.

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.

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.

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.

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).

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

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

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.

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.

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.

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

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.

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.

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.

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, 233-43.

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.

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.

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.

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.

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, September 2005, pgs 555-63.

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.

Fully-Refereed Conference Proceedings

Popov, E.P. and Roeder, C.W., "A Structural Support System for Long Span Roofs in Seismic Regions," International Conference on Light-Weight Shell and Spatial Structures for Normal and Seismic Zones. Alma-Ata, USSR, Sept. 1977.

Roeder, C.W. and Popov, E.P., "Elevated Tank Supports with Hysteretic Damping," International Conference on Finite Elements in Nonlinear Solid and Structural Mechanics, Geilo, Norway, 1977.

Hawkins, N.M. and Roeder, C.W., "North American Analytical and Experimental Studies of Composite and Mixed Construction for Seismic Zones." Seminar on Composite Steel and Concrete Structures, Japan, 1978.

Roeder, C.W. and Hawkins, N.M., "Design of Connection Between a Steel Beam and Concrete Wall of Frame," ASCE National Convention, Atlanta, GA, 1979.

Roeder, C.W., Stanton, J.F. and Hawkins, N.M., "Seismic Considerations for the Rehabilitation of the Olympic Hotel, Seattle, Washington," Building Rehabilitation Research and Technology for the 1980s, NCSBCS, Kendall/Hunt Publishing Co., Dubuque, Iowa, 1980.

Roeder, C.W., "Seismic Resistant Connections for Mixed Construction," Proceedings, Seventh World Conference on Earthquake Engineering, Istanbul, Turkey, 1980.

Roeder, C.W. and Stanton, J.F., "Elastomeric Bearings: Problems in Current United States Practice," ACI World Congress on Bearings and Sealants, Niagara Falls, NY 1981.

Brown, C.B. and Roeder, C.W., "Civil Engineering Probabilities Generated from Entropy," ASCE-ASME Engineering Mechanics Conference, Boulder, CO, June 1981.

Roeder, C.W., "Design of Composite Form-Reinforced Slabs for Points Loads," ASCE National Convention, Las Vegas, Nevada, April 1982.

Assadi, M. and Roeder, C.W., "Lateral Stability of Cantilevers with Continuous Elastic Lateral Restraint," Proceedings Structural Stability Research Council, San Francisco, CA, 1984.

Roeder, C.W., "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.

Roeder, C.W., Stanton, J.F. and Taylor, A., "Failure Modes of Elastomeric Bearings and Influence of Manufacturing Methods," Joint Sealing and Bearing Systems for Concrete Structures, Vol. I, ACI, SP-94, Detroit, MI, 1986.

Roeder, C.W., "Prediction of Deformations due to Heat Curving," Bridges and Transmission Line Structures, ASCE Structures Congress, Orlando, Florida, August, 1987.

Roeder, C.W., "Results of Experiments on Seated Beam Connections," Proceedings of AISC National Engineering Conference, New Orleans, LA, April - May 1987.

Foutch, D.A. and Roeder, C.W., "Performance of Two Full-Scale Six Story Structures to Pseudo-Dynamic Tests," Buildings, ASCE Structures Congress, Orlando, Florida, August 1987.

Eltvik, L. and Roeder, C.W., "An Experimental Evaluation of Autostress Design," U.S. Women Engineer, Vol. 34, No. 1, New York, NY, 1988.

Roeder, C.W., "Heat Curving of Structural Steel," AISC National Engineering Conference, Miami, Florida, June 1988.

Roeder, C.W., "Overview of Earthquake Hazards Reduction in Puget Sound Through Improved Building Practices," USGS, Open File Report 88-541, 1988.

Roeder, C.W., "Effects of Imperfection on Structural Performance," Steel Structures, ASCE Structures Congress, San Francisco, 1989.

Roeder, C.W., Schneider, S.P. and Carpenter, J. E., "Seismic Performance of Weak Column-Strong Beam Steel Moment Frames," Proceedings, Vol. 2, 4 US Conference Eq. Engineering, Palm Springs, CA 1990.

Moorty, S. and Roeder, C.W., "Thermal Response of Skewed Bridges," CSCE, Developments in Short and Medium Span Bridge Engineering 90, Vol. 2, Toronto, Ontario, Canada, 1990.

Harrington, L. and Roeder, C.W., "Inelastic Seismic Analysis of Existing Elevated Water Tank," ASCE, Proceedings 3rd U.S. Conference on Lifeline Earthquake Engineering, Los Angeles, CA 1991.

Roeder, C.W., "Accommodation of Movements in Bridge Design," Proceedings, 7th U.S. Japan Bridge Workshop, Tsukuba, Japan, May 1991.

Roeder, C.W., Stanton, J. F. and Campbell, T. I., "Behavior of High Load Multi-Rotational Bearings," Proceedings, ACI, 3rd World Congress on Joints and Sealants, Toronto, Canada, Oct. 1991.

Stanton, J.F., Roeder, C.W. and Purkiss, C., "Development of Bridge Bearing Provisions for the AASHTO/LRFD Bridge Specification," Proceedings, ACI, 3rd World Congress on Joints and Sealants, Toronto, Canada, October 1991.

Campbell, T.I., Pucchio, J.B., Roeder, C.W. and Stanton, J.F., "Frictional Characteristics of PTFE Slide Surfaces Used in Bridge Bearings," Proceedings, ACI, 3rd World Congress on Joints and Sealants, Toronto, Canada, October 1991.

Roeder, C.W., Leon, R. and Preece, F.R., "Strength, Stiffness and Ductility of Older Steel Frame Structures," Proceedings, 3rd ICOSCCR, Fukuoka, Japan, September 1991.

Roeder, C.W., Leon, R. and Preece, F.R., "Seismic Behavior of Older Steel Structures," Proceedings, ASCE Structures Congress, San Antonio, Texas, April 1992.

Schneider, S.P. and Roeder, C.W., "Behavior of Weak Column Strong Beam Steel Frames," Proceedings, 10th World Conference on Earthquake Engineering, Madrid, Spain, 1992.

Roeder, C.W., Leon, R. and Preece, F.R., "Effect of Composite Action on the Seismic Performance of Older Steel Structures," Engineering Foundation, Composite Construction II, Potosi, MO, 1992.

Leon, R.M., Forcier, G.P., Roeder, C.W., and Preece, F.R., "Cyclic Performance of Riveted Connections", ASCE, Proceedings of Structures Congress XII, Atlanta, Georgia April 1994, pp 1490-95.

Campbell, T.I., Rheault, J.T., Roeder, C.W., and Stanton, J.F., "Frictional and Wearing of PTFE Sliding Surfaces in Bridge Bearings", CSCE, Developments in Short and Medium Span Bridge Engineering 94, Halifax, Nova Scotia, Canada, August 1994.

Roeder, C.W., Leon, R.M., and Preece, F.R., "Seismic Performance of Older Steel Structures", Proceedings, 5th US Conference Eq. Engineering, Chicago, IL 1994.

Roeder, C.W., Hildahl, M., and Van Lund, J.A., "Fatigue Cracking of Modular Bridge Expansion Joints", Paper 94092, 73rd TRB Annual Meeting, Washington, D.C., 1994

Van Lund, J.A., Roeder, C.W., and Hildahl, M., "Dynamic Characteristics of Modular Bridge Expansion Joints", Paper 94091, 73rd TRB Annual Meeting, Washington, D.C., 1994.

Roeder, C.W., "Seismic Performance of Steel Frames with PR Connections in Old Steel Structures", Proceedings, ASCE Structures Congress, Boston, MA 1995.

Leon, R.T., Forcier, G.P., Roeder, C.W., and Preece, F.R., "Seismic Performance of Older Steel Frames," Proc. of the IABSE Symposium on Extending the Lifespan of Structures, Aug. 23-25, 1995, San Francisco, CA, IABSE, Zurich, 1995.

Roeder, C.W., "Ductility and Redundancy in Seismic Design," Proceedings Bertero Symposium, January 1997, Berkeley, CA. 1997.

Roeder, C. W., "An Evaluation of Cracking Observed in Steel Moment Frames," Proceedings of 7th US Japan Workshop on Improvement of Structural Design and Construction Practices, Kobe, Japan, January 1996.

Roeder, C.W., "Development of Composite and Hybrid Systems in the US", Proceedings of US/Japan Seminar on Innovations in Stability Concepts and Methods for Seismic Design in Structural Steel, Honolulu, Hawaii, July 1996.

Roeder, C. W, "CFT Research in the US Japan Program", ASCE Structures Congress, Portland Oregon, April 1997.

Roeder, C. W, "An Evaluation of Cracking Observed in Steel Moment Frames," ASCE Structures Congress, Portland Oregon, April 1997.

Roeder, C.W., "Bearings for Steel Bridges," Modern Steel Construction, AISC, Chicago, IL, May 1997.

Roeder, C.W., "Column Cracking in Steel Moment Frames," 5th International Colloquium on Stability and Ductility of Steel Structures, Nagoya, Japan, July 29-31, 1997.

Roeder, C.W., "Overview of Post Northridge Research on Steel Buildings," Proceedings, NSF Northridge Earthquake Research Conference, Los Angeles, CA, August 20-22, 1997(C).

Roeder, C.W., "Cracking and Ductility in Steel Moment Frames," Proceedings, NSF Northridge Earthquake Research Conference, Los Angeles, CA, August 20-22, 1997(A).

Roeder, C.W., "Correlation of Past Connection Experiments with Seismic Behavior," Proceedings, NSF Northridge Earthquake Research Conference, Los Angeles, CA, August 20-22, 1997(B).

Roeder, C.W., SAC Phase 2 Connection Test Program, Proceedings, 6th National Conference on Earthquake Engineering, EERI, Seattle, June 1998.

MacRae, G., Roeder, C.W., Crocker, P., Wong, S., and Arima, K., Fatigue Investigation of Two Riveted Steel Bridges, Paper T165-5, Proceedings Structural Engineering World Congress, San Francisco, Elsevier, 1998.

Roeder, C.W., Stress Transfer Between Steel and Concrete in Composite and Hybrid Construction, Paper T169-9, Proceedings Structural Engineering World Congress, San Francisco, Elsevier, 1998.

Roeder, C.W., Design Models for Moment Resisting Steel Construction, Paper 158-4, Proceedings Structural Engineering World Congress, San Francisco, Elsevier, 1998.

Malley, J., and Roeder, C.W., Update on Seismic Performance of Steel Frames Connections, Proceedings, SEI Structures Congress, New Orleans, LA, April 1999.

Morrow, D. V., MacRae G. A., and Roeder C. W. "Near Fault Ground Motion Effects on SDOF Inelastic Response," Proceedings, ASCE Lifelines Conference, Seattle, August 1999.

Scott, K. Roeder C. W. and MacRae G. A., "Seismic Assessment of Concrete Filled Steel Frame Substations," Proceedings, ASCE Lifelines Conference, Seattle, August 1999.

Roeder, C.W., "Composite and Hybrid Systems for Lateral Loads", Composite and Hybrid Structures, Vol 1, Proceedings of 6th ACS Conference, Los Angeles, CA, March 22-24, 2000.

Roeder, C.W., and Morino, S., "Research on CFT column systems", Proceedings of 12th World Conference on Earthquake Engineering, Paper 2618, Auckland, New Zealand, Jan 30 to Feb 4, 2000.

Roeder, C.W., "Performance of moment-resisting connections", Proceedings of 12th World Conference on Earthquake Engineering, Paper 2546, Auckland, New Zealand, Jan 30 to Feb 4, 2000.

Roeder, C.W., "Doubler Plates and Continuity Plates for Seismic Resistant Connections", Proceedings of US-Japan Workshop on Seismic Fracture Issues in Steel Structures, San Francisco, CA Feb. 28-Mar. 1, 2000.

Fukui, T., Tada, M., Nakashima, M., and Roeder, C.W., "Comparison of Seismic Design Provisions for Steel Structures between U.S. and Japan," (in Japanese) Proceedings, Annual Convention of Architectural Institute of Japan, Vol. C-1, pp 841-2, Sept. 8-10, 2000.

Roeder, C.W., (2002) "Composite Behavior Between Steel and Concrete Systems for Lateral Loads," ASCE Special Publication, Proceedings, Engineering Foundation Conference on Composite Construction IV, Banff, Canada, June 2000, pgs 494-505.

Roeder, C.W., MacRae, G., and Waters, C., (2002) "Seismic Behavior of Steel Braced Frame Connections to Composite Columns," **Connections in Steel Structures IV**, AISC, Chicago, IL pp 51-60.

Kimura, Y., MacRae, G., and Roeder, C., "Column Stiffness Effects on Braced Frame Seismic Behavior," Proceedings, 7th National Conference on Earthquake Engineering, Boston, MA, 2002.

Roeder, C.W., (2002) "Development of Performance-Based Seismic Design Criteria for Steel Moment Frames," Proceedings, 4th National Conference on Steel Structures, Patras, Greece, May 24-25, 2002, pgs 346-358.

Barth, K.E., and Roeder, C.W., (2003) "Steel Bridge Live Load Deflection Criteria," *Proceedings*, World Steel Bridge Symposium, AISC/NSBA, Orlando, November 19-21, 2003.

Roeder, C.W., Lehman, D.E., and Yoo, J.H. (2004) "Performance Based Seismic Design of Braced-Frame Connections, 7th Pacific Structural Steel Conference, Long Beach, CA, March 24-27, 2004

Roeder, C.W., and Lehman, D.E., (2004) "Braced Frame Gusset Plate Connections for Seismic Design," Structural Engineers Association of California, Monterey, CA, August 25-28, 2004

Roeder, C.W., Graff, R., Soderstrom, J., and Yoo, J.H., (2004) "Seismic Performance of Pile Wharf Connections," 13th World Congress on Earthquake Engineering, Paper 2570, Vancouver, British Columbia, Canada, August 1-6, 2004.

Lehman, D.E., Roeder, C.W., Yoo, J.H., and Johnson, S., (2004) "Performance-Based Seismic Design of Braced-Frame Connections," 13th World Congress on Earthquake Engineering, Vancouver, British Columbia, Canada, August 1-6, 2004.

Roeder, C.W., Lehman, D.E., and Yoo, J.H. (2004) "Performance-Based Seismic Design of Braced-Frame Gusset-Plate Connections," ECCS-AISC Workshop Connections in Steel Structures V, Amsterdam, June 3-4, 2004.

Roeder, C.W., Lehman, D.E., and Yoo, J.H., (2005) " 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 11-12, 2005.

Roeder, C.W., and Lehman, D.E., (2005) "Seismic Design of Braced Frame Gusset Plate Connections," Fifth International Conference on Earthquake Resistant Engineering Structures, Skiathos, Greece, May 28-June 1, 2005.

Kingsley, A., Lehman, D.E., and Roeder, C.W. (2006) "Seismic Performance of High Strength Vanadium Alloy Concrete Filled Steel Tubes," STESSA 2006 – Fifth International Conference: Behavior of Steel Structures in Seismic Areas, Yokohama, Japan, August 14-17, 2006.

Yoo, Jung Han, Roeder, C.W., and Lehman, D.E. (2006) "Finite Element Simulation of Special Concentrically Braced Frame Tests," STESSA 2006 – Fifth International Conference: Behavior of Steel Structures in Seismic Areas, Yokohama, Japan, August 14-17, 2006.

Roeder, C.W., Lehman, D.E., and Christopoulos, A. (2006) "Seismic Performance of Special Concentrically Braced Frames with Buckling Restrained Braces," 8th National Conference on Earthquake Engineering, San Francisco, CA April 18-22, 2006.

Herman, D., Johnson, S., Lehman, D.E., and Roeder, C.W. (2006) "Seismic Design of Special Concentrically Braced Frames," 8th National Conference on Earthquake Engineering, San Francisco, CA April 18-22, 2006.

Kingsley, A., Williams, T., Lehman, D.E., and Roeder, C.W. (2006) "Experimental Investigation of Column-Foundation Connections for Concrete-Filled High Strength Steel Tubes," 8th National Conference on Earthquake Engineering, San Francisco, CA April 18-22, 2006.

Kingsley, A.M., Williams, T.S., Lehman, D.E., and Roeder, C.W. (2006) "Experimental and analytical investigation of vanadium micro-alloyed concrete-filled tube-concrete footing connections," 11th International Symposium on Tubular Structures, Quebec City, Quebec, Canada, August 31-September 2, 2006.

Roeder, C.W., Lehman, D.E., Johnson, S., Herman, D., and Yoo, J.H., (2006) "Seismic Performance of SCBF Braced Frame Gusset Plate Connections," 4th International Conference on Earthquake Engineering, Taipei, Taiwan, October 12-13, 2006.

Yoo, J.H., Roeder, C.W., and Lehman, D.E. (2006) "Finite Element Simulation of Buckling Restrained Braced Frame Tests," 4th International Symposium on Steel Structures, November 16-17, 2006, Seoul, Korea.

Roeder, C.W., Lehman, D.E., Johnson, S., Herman, D., and Yoo, J.H. (2006) "Seismic Performance of Concentrically Braced Frames with Gusset Plate Connections," 4th International Symposium on Steel Structures, November 16-17, 2006, Seoul, Korea.

Yoo, Yeong-Chan, and Roeder, C.W. (2006) "Post-buckling of Prismatic Columns considering Shear Deformation under a Combined Load," 4th International Symposium on Steel Structures, November 16-17, 2006, Seoul, Korea.

Roeder, C.W., and Lehman, D.E., (2007) "Composite Action in Concrete Filled Steel Tubes," Keynote address, Pacific Structural Steel Conference 2007, Wairakei, New Zealand, 13-16 March, 2007

Roeder, C.W., Lehman, D.E., Johnson, S., and Herman, D., (2007) "Experimental Study of Seismic Performance of Braced Frame Gusset Plate Connections," Pacific Structural Steel Conference 2007, Wairakei, New Zealand, 13-16 March, 2007

Abstract and Non-Refereed Conference Proceedings and Other Non-Journal Articles

Roeder, C.W., Popov, E.P. and Bouwkamp, J.G., "Studies of Earthquake Resistance of Braced Steel Frames," Fourth National Meeting of the University's Council for Earthquake Engineering Research, University of British Columbia, Vancouver, Canada, June 1976.

Roeder, C.W., "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., June 1978.

Roeder, C.W., "Composite Design in LRFD," ASCE Annual Conference, Seattle, WA, April 1986,

Stanton, J.F., Roeder, C.W. and Taylor, A.W., "Limits for Design of Elastomeric Bearings," ASCE Annual Conference, Seattle, WA, April 1986.

Roeder, C.W., "Thermal Movements in Bridges," 2nd Bridge Engineering Research in Progress, Reno, Nevada, Oct. 1990.

Roeder, C.W., Stanton, J.F. and Campbell, T.I., "Bridge Bearings," 2nd Bridge Engineering Research in Progress, Reno, Nevada, Oct. 1990.

Roeder, C.W., "Comparison of LRFD and Allowable Stress Design Methods for Steel Structures," 5th Seminario de Ingenieria Estructural, San Jose, Costa Rica, Nov. 1990.

Roeder, C.W., "State of the Art Earthquake Resistant Design for Steel Structures," 5th Seminario de Ingenieria Estructural, San Jose, Costa Rica, Nov. 1990.

Roeder, C.W., Stanton, J.F. and Campbell, T.I., "Low Temperature Behaviour of Bridge Bearings," Proceedings, 8th U.S.-Japan Bridge Engineering Workshop," Chicago, IL, May 1992.

Roeder, C.W., "Composite Members in Seismic Design," Proceedings, U.S.-Japan Workshop on Seismic Design of Composite and Hybrid Structures, Berkeley, CA, Sept. 1992.

Roeder, C.W., "Fatigue and Dynamic Load Measurements on Modular Expansion Joints", Proceedings, 10th U.S.-Japan Bridge Engineering Workshop," North Lake Tahoe, Nevada, May 1994.

Roeder, C.W., "Seattle Study Tour of the 10th US-Japan Bridge Engineering Workshop", Proceedings, 10th U.S.-Japan Bridge Engineering Workshop," North Lake Tahoe, Nevada, May 1994.

Roeder, C. W., and MacRae, G.A., "Research on Steel Bridges at University of Washington, Workshop on Bridge Research, State University of New York at Buffalo, June 1996.

Roeder, C.W., "Design, Installation and Attachment of Bridge Bearings", National Steel Bridge Symposium, October 15-17, National Steel Bridge Alliance, Chicago, IL., 1996.

Roeder, C.W., Simple Methods of Assuring Strength, Stiffness and Ductility of Steel Moment Frame Connections, US-Japan Fracture Issues Workshop, Tokyo, Japan, April 1998.

Roeder, C.W., Northridge quake Shook up Engineers, *The Seattle Daily Journal of Commerce*, Seattle, WA, November 19, 1998.

Hooper, J.D., Roeder, C.W., Kelmencic, R., and Nordquist, K., Concrete-Filled Tubes for High-Rise Construction, Civil Engineering, ASCE, Washington, D.C., February 1999.

Roeder, C.W., Fatigue Cracking and Expected Remaining Life of Riveted Steel Bridges, Proceedings, 16th US-Japan Bridge Engineering Workshop, Lake Tahoe, NV, October 2-4, 2000, pgs 97-111.

Fukui, T., Tada, M., Nakashima, M., and Roeder, C.W., "Comparison of Seismic Design Provisions for Steel Structures between U.S. and Japan," (in Japanese) Proceedings, Annual Meeting of Kinki Branch of Architectural Institute of Japan, pp 157-160, June 28, 2000.

Barth, K. and Roeder, C.W., "Investigation of AASHTO's Live-Load Deflection Criteria on Slab-on-Steel Stringer Bridges," Proceedings, 5th National Workshop on Bridge Research in Progress, Minneapolis, MN, October 2001.

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.

Graff, R., Soderstrom, J., Roeder, C.W., and Yoo, J.H. (2003). " Seismic Performance of Precast Pile-Wharf Connections," Proceedings, 2003 SEI/ASCE Structures Congress, Seattle, WA.

Roeder, C.W., and Gaines, M. (2003). " Steel Piers for Bridge Substructures," Proceedings, 2003 SEI/ASCE Structures Congress, Seattle, WA.

Roeder, C.W., MacRae, G., Gunderson, C., and Lehman, D.E., (2003) "Seismic Design Criteria for CFT Braced Frame Connections," Proceedings of the International Workshop on Steel and Concrete Composite Construction (IWSCCC-2003), Taipei, Taiwan, Oct 8-9, 2003, pgs 97-106.

MacRae, G.A., Kimura, Y., and Roeder, C.W., (2003) "System Considerations for Concentrically Braced Steel Frames with CFT Columns," Proceedings of the International Workshop on Steel and Concrete Composite Construction (IWSCCC-2003), Taipei, Taiwan, Oct 8-9, 2003, pgs 133-42.

Books

Roeder, C.W., "Lateral Load Design," chapter in book **Structural Steel Designer's Handbook**, 2nd Edition, edited by R.L. Brochenbrough and F.S. Merritt, McGraw-Hill, New York, 1994.

Roeder, C.W., and MacRae, G.A., "Steel Structures", 29pp chapter in book **Computer Analysis and Design of Earthquake Resistant Structures**, edited by Beskos, Computational Mechanics Publications, Elsevier Applied Science, London, 1996.

Carpenter, J.E., Roeder, C., and Hooper, J.D., "Chapter 3 - Buildings", **Kobe Earthquake Reconnaissance Report**, Structural Engineers Association of Washington, Seattle, WA, 1995, pgs3-1to 3-49.

Miller, R., Ferkovich, S.J., and Roeder, C., "Chapter 4 - Transportation Structures", **Kobe Earthquake Reconnaissance Report**, Structural Engineers Association of Washington, Seattle, WA, 1995, pgs4-1to 4-23.

Roeder, C.W., and Stanton, J. F., "*Steel Bridge Bearing Selection and Design Guide*," National Steel Bridge Alliance, **Highway Structures Design Handbook**, Vol. II, Chap. 4, AISI, Washington, D.C., 1997.

Roeder, C.W., "Summary Report of SAC Phase I - Task 7 Experimental Studies", SAC Joint Venture, Richmond, CA, 1996, pgs 1-1,1-35.

Roeder, C.W., Lateral Load Design, chapter in the 3rd edition of **Structural Steel Designers Handbook** McGraw-Hill, New York 1999.

Roeder, C.W., "State of Art Report – Connection Performance", **FEMA 355D**, Federal Emergency Management Agency, Washington, D.C., 2000.

Roeder, C.W., Lateral Load Design, chapter in the 4th edition of **Structural Steel Designers Handbook**, edited by Roger Brockenbrough, McGraw-Hill, New York 2005.

Roeder, C.W., and Nakashima, M., "Advanced Steel," chapter in **Advanced Civil Infrastructure Materials: Science, Mechanics and Applications**, edited by H. C. Wu, Woodhead Publishing, London 2005.

Editing and Other Scholarly Papers

Roeder, C. W., Editor, **Composite and Mixed Construction**, ASCE Special Publication, New York, N.Y. 1985.

Roeder, C. W., Technical Editor, **Joint Sealing and Bearing Systems for Concrete Structures**, Volumes I and II, ACI, SP-94, Detroit, MI, 1986.

Sponsored Research

- 1978-79 Connections for Seismic Resistant Composite Structures, Univ. of Washington Graduate School Research Fund, \$4050.
- 1979-80 Lateral Stability of Partially Restrained Wide Flange Beams, Univ. of Washington Graduate School Research Fund, \$5190.
- 1981-82 Elastomeric Bridge Bearings - Design, Materials and Construction, NCHRP, \$74,715 (with J.F. Stanton).
- 1981-84 Instrumentation of Whitechuck River Bridge," AISI, \$83,000.
- 1983-86 Elastomeric Bridge Bearings - Phase II, NCHRP, \$150,000 (with J.F. Stanton).
- 1982-84 Seismic Behavior of Steel Frame Buildings with Composite Slabs, NSF, \$13,200.
- 1982-85 Repair of Seismic Damage to Steel Structures, NSF, \$111,570.
- 1985-88 Interpretation and Dissemination of Phase I and II Test Results for the U.S.-Japan Full Scale Test Structure (Steel), NSF \$79,690, \$4,320 Supplement.
- 1984-85 US Japan Joint Seminar on Composite and Mixed Construction, NSF, \$9,700.
- 1985-88 Evaluation of Seismic Base Isolation Systems, NSF, \$114,100; with J.F. Stanton.
- 1986-89 Elastomeric Bridge Bearings - Phase III, NCHRP, (with J.F. Stanton).

- 1988-90 Evaluation of Thermal Movements in Existing Bridges," NSF, \$125,852.
- 1989-91 Consistent Criteria for Seismic Design of Weak Column Strong Beam Steel Frames, NSF, \$150,000
- 1989-92 High-Load Multi-Rotational Bridge Bearings, NCHRP, \$250,000, (w/J. F. Stanton).
- 1988-89 Instrumentation for Data Acquisition and Control of Structural Experiments, DURIP-AFOSR, \$80,160.
- 1990-94 Evaluation of the Strength, Stiffness, and Ductility of Older Steel Frame Structures, NSF, 10/1/90 - 4/30/94, \$270,000 plus \$30,000 REU supplement (w/Roberto Leon).
- 1992 Beam Crippling Experiments, Boeing Company, \$28,340.
- 1992-94 Similitude of Composite Panels, Boeing Company, \$88,600, \$10,025 and \$77,000.
- 1993-95 Investigation of Foundation Rehabilitation Strategies, NSF, \$155,423 (with Sunirmal Banerjee).
- 1992-93 Preliminary Investigation of Fatigue Cracking in Modular Expansion Joints, Washington Dept. of Transportation, \$38,900.
- 1993-94 Field Measurements of Loading of Modular Expansion Joints, Washington Dept of Transportation, \$74,990.
- 1994-95 Development of Guidelines for Heat Straightening, NSF, \$20,750.
- 1994-95 Evaluation of Column Cracking in Steel Moment Frames, NSF, \$65,000.
- 1995-97 Steel Bridge Cracking, WSDOT, \$175,000, (w/ Gregory MacRae).
- 1995-97 Design Requirements for Shear Connectors in Encased Steel (SRC) and Concrete Filled Tube (CFT) Construction, NSF, \$146,261 plus \$18,855, plus \$10,000 REU Supplement.
- 1995-96 Thermal Movement Design Procedure for Steel Bridges, American Iron and Steel Institute, Washington, DC, \$46,500
- 1997-98 Development of Simplified Models for Connections in Steel Frame Structures, SAC Joint Venture, Richmond, CA, \$70,000.
- 1997-98 Seismic Building Evaluation of Infilled Steel Frames and Near Field Effects, PEER/PG&E, Richmond, CA, \$120,000 (with G. A. MacRae).
- 1998-2000 Repair of Steel Bridge Cracking, WSDOT \$162,000 (with Greg MacRae).
- 1999-2001 Evaluation of Wharf Pier-Pile Connections, PEER \$140,000 for two years.
- 1999-2001 Concrete Filled Tube Braced Frame Testing, NSF, \$234,121, Sept 1, 1999 to Aug. 31, 2001. (with Greg MacRae and including supplemental funding)

- 2000-2001 NCHRP 20-7/133 Evaluation of Live Load Deflection Limits, \$50,000. Nov. 2000 to Nov. 2001.
- 2000-2002 Arkansas State University, Garlock Corporation - Cotton Duck Elastomeric Pad Study, \$93,000, Dec 2000 to May 2002. (with Dawn Lehman)
- 2002-2003 Washington State Department of Transportation, Cotton Duck Bearing Pads, \$45,000, Oct 1, 2002 to Sept 30, 2003. (with Dawn Lehman)
- 2003 - 2007 Vanadium Alloy Steel Tubes for Pile and Concrete Filled Tubular Columns in Civil Engineering Structures, US Army Research through ATI Corporation, \$75,022 (\$91,997 - 2004 supplement received March 2004, Year 1 \$38,059 supplement contract received mid April 2005, Year 2 \$558,900 arriving June 2005, Year 3, \$100,000 arriving August 2006) Total funding equals \$863,978) (with Dawn Lehman)
- 2003-2006 Performance Based Design of Concentrically Braced Frames, NSF, \$296,278, June 1, 2003 to November 30, 2005. Plus \$15,000 REU Supplement. (with Dawn Lehman)
- 2004-2007 Improved Rotational Limits of Elastomeric Bearings, \$350,000, National Cooperative Highway Research Program. (with John Stanton and Peter MacKenzie)
- 2005 Field Testing of Granite Falls Bridge, \$19,700, CES Inc and Snohomish County Dept. of Public Works.
- 2005-2006 Testing of the Lateral Torsional Stability of Timber Members, \$30,000, American Forest and Paper Products Association.
- 2005-2009 Seismic Resistance of Pier to Wharf Connections, \$270,000. National Science Foundation through a subcontract to Georgia Tech as part of NEES Grand Challenge proposal. (with Dawn Lehman)
- 2006-2010 NEESR-SG: International Hybrid Simulation of Tomorrow's Braced Frame Systems, \$1,532,000, National Science Foundation (with Dawn Lehman as Co-PI and subcontracts to UC Berkeley, U. of Minnesota, U. of Alaska, and MIKI Shaking Table in Japan)
- 2006-2007 Testing of SCBF Gusset Plate Connections, \$30,462., American Institute of Steel Construction, Chicago.

Project reports (reports to sponsors)

Stanton, J.F., and Roeder, C.W., "Elastomeric Bearings Design, Construction, and Materials," NCHRP Report 248, TRB, National Research Council, Washington, D.C., August 1982, 82 pp.

Roeder, C.W., Stanton, J.F., and Taylor, A.W., "Performance of Elastomeric Bearings," NCHRP Report 298, TRB, National Research Council, Washington, D.C., October 1987, 82 pp.

Roeder, C.W., Stanton, J.F., and Feller, T., "Low Temperature Behavior and Acceptance Criteria for Elastomeric Bridge Bearings," NCHRP Report 325, TRB, National Research Council, Washington, D.C., December 1989, 69 pp.

Stanton, J.F., Roeder, C.W., and Campbell, T.I., "High-Load Multi-Rotational Bridge Bearings," NCHRP Report 432, TRB, National Research Council, Washington, D.C., October 1999, 38 pp plus appendices.

Popov, E.P., Takanashi, K. and Roeder, C.W., "Structural Steel Bracing Systems: Behavior Under Cyclic Loading," EERC Report 76-17, University of California, Berkeley, 1977.

Roeder, C.W. and Popov, E.P., "Inelastic Behavior of Eccentrically Braced Steel Frames Under Cyclic Loading," EERC Report 77-18, University of California, Berkeley, 1977.

Roeder, C.W. and Eltvik, L., "Autostress Design Criteria: Load Test of the Whitechuck River Bridge," Final Report to AISI and FHWA, 1985.

Roeder, C.W., "Use of Thermal Stress for Seismic Damage Repair," Final Report to NSF, University of Washington, 1985.

Roeder, C.W., "Further Analysis of Phase I Full Scale Test Results," US-Japan Joint Technical Coordinating Committee Meeting, Tokyo, Japan, July 1987.

Foutch, D.A., Roeder, C.W. and Goel, S.C., "Preliminary Report on Seismic Testing of a Full Scale Six Story Steel Building," Report VICU-ENG-86-2009, University of Illinois, Champaign-Urbana, IL, November 1986.

Roeder, C.W., "Inelastic Dynamic Analysis of Two Eight Story Moment Frames," A Final Report to Washington Structural Engineers Association, Seattle, WA, October 1987.

Roeder, C.W. and Stanton, J.F., "State of the Art Review of Pot Bearings and PTFE Sliding Surfaces," Report to NCHRP, 1988.

"Pot Bearings and PTFE Surfaces," NCHRP Research Results Digest, No. 171, September 1989.

Stanton, J.F., Roeder, C.W. and Campbell, I., "Draft Specifications and Bearing Selection Guide and Recommendations for Research," NCHRP 10-20/A Interim Report, 1990.

Roeder, C.W., "Instrumentation for Data Acquisition and Control of Structural Experiments," Final Technical Report, AFOSR, Washington, DC, January, 1990.

Kuppa, S.M. and Roeder, C.W., "Thermal Movements in Bridges," Final Report to NSF, January 1991 (181 pgs.).

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 Cracking 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.

Other Research-Related Activities

None

Invited Lectures and Seminars

Eccentrically Braced Frames, Massachusetts Institute of Technology, Department of Civil Engineering, 1977.

Eccentrically Braced Frames, Carnegie Mellon University, Department of Civil Engineering, 1977.

Eccentrically Braced Frames, Arizona State University, Department of Civil Engineering, 1977.

Eccentrically Braced Frames, University of Southern California, Department of Civil Engineering, 1979.

Eccentrically Braced Frames, University of Texas, Department of Civil Engineering, 1981.

Design of Eccentrically Braced Frames, Anchorage Alaska, 1983.

Results of Experiments on Seated Beam Connections," AISC National Engineering Conference, New Orleans, LA, 1987.

Comparison of LRFD and Allowable Stress Design Methods for Steel Structures, 5th Seminario de Ingenieria Estructural, San Jose, Costa Rica, November 24, 1990.

State of the Art Earthquake Resistant Design for Steel Structures, 5th Seminario de Ingenieria Estructural, San Jose, Costa Rica, November 23, 1990.

Composite Members in Seismic Design, U.S.-Japan Workshop on Seismic Design of Corporate and Hybrid Structures, Berkeley, CA, 1992.

Bridge Bearing Design, Maryland Dept. of Transportation, Baltimore, MD April 1, 1991.

Bridge Bearing Design, North Carolina Dept. of Transportation, Raleigh, NC, April. 29, 1993.

Bridge Bearings, Maryland Department of Transportation, Baltimore, MD.1995.

Bridge Bearings, North Carolina Department of Transportation, Raliegh, NC.1995.

Bridge Bearings, Florida Department of Transportation, Orlando, FL.1996.

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.

Design, Installation and Attachment of Bridge Bearings, National Steel Bridge Symposium, National Steel Bridge Alliance, Chicago, IL., 1996.

Bridge Bearings, South Carolina Department of Transportation, Columbia, SC.1996.

Bridge Bearings, Massachusetts Department of Transportation, Boston, MA.1996.

Overview of Post Northridge Research on Steel Buildings, NSF Northridge Earthquake Research Conference, Los Angeles, CA, August 20-22, 1997(C).

Redundancy and Ductility in Steel Moment Frames, Bertero Symposium, University of California, Berkeley, CA 1997.

Overview of US Research on Steel Connections Since Northridge, Takanashi Symposium, University of Tokyo, Tokyo Japan 1997.

Composite Construction for Seismic Design in US, Architectural Institute of Japan, Osaka, 1997.

Elastomeric Bearings for Steel Bridges, Florida Department of Transportation, Tallahassee, Dec. 1998.

Update on US Steel Moment Frame Connections, Disaster Prevention Research Institute, Kyoto University, Uji, Japan, May 13, 1999.

Fatigue Evaluation and Repair of Riveted Steel Bridges, Tokyo Institute of Technology, Tokyo, Japan, May 18, 1999.

Activities of Connection Performance TAP - Tasks 5.3 and 7, Update Forum on Steel Research, Marriott Courtyard Hotel, Marina Del Rey, CA, September 1998.

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.

Development of Performance-Based Seismic Design Criteria for Steel Moment Frames, University of Patras, Patras, Greece, 25, 2002.

Concrete Filled Tubes for Steel Bridge Piers, New Jersey Dept. of Transportation, Rutgers University, Sept. 2002.

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.

Seismic Design of Braced Frame Gusset Plate Connections, Fifth International Conference on Earthquake Resistant Engineering Structures, Skiathos, Greece, May-June 2005.

Presentations Given at Conferences

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.

Design of Connections Between a Steel Beam and Concrete Wall of Frame, ASCE National Convention, Atlanta, GA, 1979.

Seismic Considerations for the Rehabilitation of the Olympic Hotel, Seattle, Washington," Building Rehabilitation Research and Technology for the 1980s, San Francisco, CA 1980.

Elastomeric Bearings: Problems in Current United States Practice, ACI World Congress on Bearings and Sealants, Niagara Falls, NY 1981.

Design of Composite Form-Reinforced Slabs for Point Loads," ASCE National Convention, Las Vegas, Nevada, 1982.

Lateral Stability of Cantilevers with Continuous Elastic Lateral Restraint, Structural Stability Research Council, San Francisco, CA, 1984.

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.

Failure Modes of Elastomeric Bearings and Influence of Manufacturing Methods," ACI Conference on Joints and Bearings, San Antonio, 1986.

Prediction of Deformations due to Heat Curving, ASCE Structures Congress, Orlando, Florida, 1987.

Results of Experiments on Seated Beam Connections, AISC National Engineering Conference, New Orleans, LA, 1987.

Composite Design in LRFD, ASCE Annual Conference, Seattle, WA, 1986,

Heat Curving of Structural Steel, AISC National Engineering Conference, Miami, Florida, 1988.

Overview of Earthquake Hazards Reduction in Puget Sound Through Improved Building Practices," USGS, Olympia, WA 1988.

Effects of Imperfection on Structural Performance, ASCE Structures Congress, San Francisco, 1989.

Thermal Movements in Bridges, 2nd Bridge Engineering Research in Progress, Reno, Nevada, 1990.

Bridge Bearings, 2nd Bridge Engineering Research in Progress, Reno, Nevada, 1990.

Accommodation of Movements in Bridge Design, 7th U.S. Japan Bridge Workshop, Tsukuba, Japan, 1991.

Behavior of High Load Multi-Rotational Bearings, ACI, 3rd World Congress on Joints and Sealants, Toronto, Canada, 1991.

Development of Bridge Bearing Provisions for the AASHTO/LRFD Bridge Specification, ACI, 3rd World Congress on Joints and Sealants, Toronto, Canada, 1991.

Strength, Stiffness and Ductility of Older Steel Frame Structures, 3rd ICOSCCR, Fukuoka, Japan, 1991.

Seismic Behavior of Older Steel Structures, ASCE Structures Congress, San Antonio, Texas, April 1992.

Behavior of Weak Column Strong Beam Steel Frames, 10th World Conference on Earthquake Engineering, Madrid, Spain, 1992.

Effect of Composite Action on the Seismic Performance of Older Steel Structures, Engineering Foundation, Composite Construction II, Potosi, MO, 1992.

Low Temperature Behavior of Bridge Bearings, 8th U.S.-Japan Bridge Engineering Workshop," Chicago, IL, 1992.

Composite Members in Seismic Design, U.S.-Japan Workshop on Seismic Design of Composite and Hybrid Structures, Berkeley, CA, 1992.

Fatigue and Dynamic Load Measurements on Modular Expansion Joints, 10th U.S.-Japan Bridge Engineering Workshop," North Lake Tahoe, Nevada, 1994.

Seismic Performance of Older Steel Structures, 5th US Conference Eq. Engineering, Chicago, IL 1994.

Fatigue Cracking of Modular Bridge Expansion Joints, 73rd TRB Annual Meeting, Washington, D.C., 1994.

Dynamic Characteristics of Modular Bridge Expansion Joints, 73rd TRB Annual Meeting, Washington, D.C., 1994.

Seismic Performance of Steel Frames with PR Connections in Old Steel Structures, ASCE Structures Congress, Boston, MA 1995.

An Evaluation of Cracking Observed in Steel Moment Frames, 7th US Japan Workshop on Improvement of Structural Design and Construction Practices , Kobe, Japan, 1996.

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.

CFT Research in the US Japan Program, ASCE Structures Congress, Portland Oregon, 1997.

An Evaluation of Cracking Observed in Steel Moment Frames, ASCE Structures Congress, Portland Oregon, 1997.

Design, Installation and Attachment of Bridge Bearings, National Steel Bridge Symposium, National Steel Bridge Alliance, Chicago, IL., 1996.

Column Cracking in Steel Moment Frames, 5th International Colloquium on Stability and Ductility of Steel Structures, Nagoya, Japan, 1997.

Overview of Post Northridge Research on Steel Buildings, NSF Northridge Earthquake Research Conference, Los Angeles, CA, 1997.

Cracking and Ductility in Steel Moment Frames, NSF Northridge Earthquake Research Conference, Los Angeles, CA, 1997.

Correlation of Past Connection Experiments with Seismic Behavior, NSF Northridge Earthquake Research Conference, Los Angeles, CA, 1997.

Instrumentation and Fatigue Evaluation of I-5 Toutle and Lewis River Bridges, FHWA Nondestructive Evaluation Workshop, Portland, Oregon, June 1998.

Stress Transfer Between Steel and Concrete in Composite and Hybrid Construction, Structural Engineering World Congress, San Francisco, July 1998.

Design Models for Moment Resisting Steel Construction, Structural Engineering World Congress, San Francisco, July 1998.

Research on CFT column systems, 12th World Conference on Earthquake Engineering, Auckland, New Zealand, Jan. 30 - Feb 4, 2000.

Performance of moment-resisting connections, 12th World Conference on Earthquake Engineering, Auckland, New Zealand, Jan. 30 - Feb 4, 2000.

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.

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.

Also see conference proceedings listed above.

Professional Licenses

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

Professional Society Membership

Member, American Society of Civil Engineers.

Member, Earthquake Engineering Research Institute.
 Member, American Welding Society.
 Member, Structural Engineers Association of Washington
 Member, Architectural Institute of Japan

Professional Society and Other Service

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

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)

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) (2003-Present)

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)

Member, ASCE Structural Engineering Institute Technical Activities Division Executive Committee (SEI EXCOM) (2004-09)

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

Member, SEI Conferences Committee, (2004 to Present).

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

Reviews Made

Journal or Other	Number
<i>ASCE Journal of Structural Engineering</i>	100+
<i>ASCE Journal of Bridge Engineering</i>	15
<i>TRB Transportation Research Record</i>	11
<i>Earthquake Engineering and Structural Dynamics</i>	16
<i>Structural Engineering</i>	18
<i>ASME</i>	5
<i>Steel Design Textbooks</i>	2
<i>Structural Analysis Textbooks</i>	2
<i>AISC Engineering Journal</i>	3
<i>ASCE Journal of Engineering Mechanics</i>	4
<i>EERI Spectra</i>	5
NSF Proposals	74

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

Teaching (in last 5 years)

Course	Quarter	No. of Students	Course Title	Instructor's Avg of Items 1-4
CIVE 451	A99	7	Steel Design	
CESM 514	Sp00	19	Earthquake Engineering	
CIVE 442	Sp00	15	Design Project	
CEE 451	W01	29	Steel Design	4.0
CEE 442	Sp 01	31	Design Project	
CEE 515	Sp01	11	Earthquake Engineering	
CEE 451	Au01	18	Steel Design	3.36
CEE 513	W02	14	Advanced Steel Design	3.86
CEE 442	Sp02	16	Design Project	2.3
CEE 500	W02		Graduate Seminar	
CEE 500	Sp 02		Graduate Seminar	
CEE516	Au02	13	Earthquake Engineering II	3.6
AA210	W03	51	Statics	3.8
CEE451	W03	31	Steel Design	3.4
CEE 515	Sp03	9	Earthquake Engineering I	3.2
CEE 442	Sp03	22	Design Project	2.9
CEE 500	Au03	29	Graduate Seminar	--
CEE 513	W 04	20	Advanced Steel	4.0
CEE 515	Sp 04	23	Earthquake Engineering 1	2.9
CEE 513	Au 04	13	Advanced Steel	3.4
CEE 458	W 05	29	Advanced Structures II	3.3
CEE 451	W 05	55	Steel Design	3.2
CEE 599	W 05	22	Bridge Design (shared with John Stanton)	?
CEE 513	W 06	29	Advanced Steel	3.2
CEE 502	W 06	26	Structural Dynamics	2.9
CEE 500	W 06	32	Graduate Seminar	--

Short Courses, Workshops, and Other Educational Programs

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.

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 - 1992 - 1999

Chaired Doctoral Degrees

Shashi Moorthy Kuppa, "Thermal Movements in Bridges," Aut 1990.

Stephen P. Schneider, "Seismic Performance of Moment-Resisting Steel Frames," Sum 1991.

Jung Han Yoo, "Analytical Investigation of the Seismic Performance of Special Concentrically Braced Frames," Spring 2006. (co-Chair with Dawn Lehman)

Chaired Master Degrees

C.L. Hsu, "The Behavior of Single-Plate Welded-Bolted Connections Incorporating Headed Steel Connectors"	Sum. 1978
J.F. Yau, "An Investigation of Fatigue Problems on a Frame Structure Under Wave Action"	Aut. 1978
S. Mahini, "Seismic Behavior of Mixed Structural Systems"	Sum. 1979
V. Koiv, "A Study of the Behavior of Embedded Steel Shearwall-Frame Connectors,"	Sum. 1979
M.T. Wang, "The Behavior of Steel Structures to Shear Wall Connections Under Tension"	Aut. 1979
M. Assadi, "Lateral Stability of Beams with Tension Flange Restraint"	1981
C.M. Su, "Behavior of Composite Floor Slabs Under Concentrated Loads"	Aut. 1980
M. El Masri, "Web Stiffener Design for Beams Undergoing Cyclic Shear Yielding"	Win. 1982
K. Gottleber, "Comparison of Major Design Specifications for Designing Elastomeric Bridge Bearings"	Spr 1982
M. Ehredt, "Experimental Analysis of Plaster Strains Due to Heat Curving"	Aut. 1982
D. Stensby, "A Finite Element Solution to the Flame Bending Problem"	Win. 1983
W.P. Hanson, "A Study of the Bonding Mechanism in Mixed Steel-Concrete Columns"	Win. 1983
V. Lee, "The Analysis of Point Loads on Composite-Deck-Reinforced Slabs"	Win. 1983
K. Marashi, "Effect of Reinforcement, Wide Flange Column Depth and Concrete Strength on Bonding Mechanism on Mixed Steel-Concrete Columns"	Sum. 1983
L. Eltvik, "A Field Test of the Whitechuck River Bridge: Investigation of Autostress Design"	Sum. 1983
A. Chu, "Lateral Stability of I-Beams with Elastic Torsional Restraint and Full Tension Flange Lateral Displacement Restraint"	Sum. 1983

A. Suryadinata, "Experimental Study of Lateral Stability of a Cantilever I-Beam with Tension Flange Restraint"	Win. 1984
S. Clark, "An Experimental Analysis of Heat Curving on Steel Plates and Columns"	Spr. 1984
S. Schneider, "A Thermo-Plastic Finite Element Analysis to Predict the Behavior of Flame Cambered Beams"	Sum. 1984
A. Taylor, "A Study of the Behavior of Simply Supported Composite Beams"	Win. 1985
R. Paananen, "The Use of Elastomeric Dock Fenders in Marine Landing Structures"	Sum. 1985
K. Curry, "Compression and Shear Tests of Reinforced Bearings of Different Shapes and Sizes"	Aut. 1985
J. Meeker, "Cable Stays"	Win. 1986
R. Dailey, "Experimental Study of Seated Beam Connections with Rigid and Flexible Bearing Seats"	Win. 1986
W. Malkowicz, "A Three-Dimensional Finite Element Analysis of Bond Transfer Using ADINA"	Win. 1986
T. Bykonen, "Dynamic Analysis of Mud Mountain Dam Intake Tower Including Hydrodynamic Effects"	Sum. 1986
N. Hoke, "A Study of Brace Behavior in a Full Scale Six Story Steel Structure," 1986. (Thesis)	1986
M. Tang, "The Analysis of the Failure of a Six Story Steel Building with Brace to Beam Connections"	1988
N. Afeiche, "Continuously Heat-Curved Mild Steel Plate"	1989
T. Feller, "Low Temperature Performance of Elastomeric Bearings"	1989
L. Harrington, "Seismic Response of an Elevated Water Tank,"	1989
P. Favre, "Thermal Movements in the Casper Creek Bridge"	1989
B. Trapp, "Structural Design Under the 1985 and 1988 UBC: A Comparative Analysis"	1990
Gregory Lee, "Seismic Behavior of Weak Column-Strong Beam Steel Frames"	1990
Kent T. Ferguson, "Effect of Panel Zone Thickness on Seismic Response of Steel Moment Resistant Frames"	1991
G. Gilbert, "Testing of High-Load Multi-Rotational Pot Bearings"	1991
Eric Thomas, "The Effect of Concrete Encasement on the Strength, Stiffness and Ductility of Seated-Beam Connections"	1992
Brett Knechtel, "The Effect of Concrete Encasement on the Strength, Stiffness and Ductility of Steel T-Stub Connections"	1992
Katerina Grauer, "Case Study of Thermal Effects on Broadway Avenue Underpass"	1990
Lisa Wipplinger, "Analysis of the Alaskan Way Viaduct"	1992
Yan Liu, "Test Apparatus for Composite Panel Tests"	1993
Mark Hildahl, "Fatigue Cracking of Modular Expansion Joints".	1993
Anne Vaneaton, "Development of a Beam Element with Semi-Rigid Connections"	1994
Diana Flores, "An Evaluation of Integral Abutment Bridge Behavior"	1994
Mary Demars, "Development of a Contour Temperature Map for Design of Thermal Movements in Composite Bridges"	Aut. 1994
Sean Smith, "Parametric Analysis of Dynamically Loaded Concentrically Braced Steel Frames Allowed to Uplift"	Win. 1995
Garth Berninghaus, "Stress Distribution in Welded Flange-Bolted Web"	Win. 1995

Connections"	
Mitchell Tallman, "The Effect of Concrete Encasement on the Strength, Stiffness and Ductility of Steel Double Web Angle Connections"	Spr. 1995
Debbie Jung, "A Case Study Analysis of Seismic Effects of Wall Uplift in Reinforced Concrete Structures"	Spr. 1995
Peter Chia-Yu Lee, "The Effect of Concrete Encasement on the Strength, Stiffness and Ductility of Clip Angle Beam-to-Column Connections"	Aut. 1995
Kim Long, "Pilot Study on Retrofitting Damaged Steel Buildings by Composite Construction"	Aut. 1995
Todd St. George, "Testing of Thin-Walled Curved Aluminum Z-Beams"	Win. 1996
Patrick Harrigan, "Possible Causes of Cracking in Steel Moment Resistant Frames During the 1994 Northridge Earthquake"	Win. 1996
Jason Emoto, "Bond Shear Demand in Composite Concrete and Steel Members"	Spr. 1996
Brian Aldrich, "Design Temperatures for Composite Bridges in the United States"	Aut. 1996
Kenneth Wilson, "Fatigue Evaluation for the Nooksack River Bridge 5/828E"	Aut. 1996
Richard A. Dethlefs, "Case Study of Thermal Effects on 148th Avenue NE Undercrossing (SR520/36) Bridge"	Aut. 1996
Brad Cameron, "Bond Behavior in Concrete Filled Tube Composite Columns"	Spr. 1997
Paul Crocker, "Behavior and Fatigue of the Toutle River Bridge, a Tied-Arch, Steel Bridge on Interstate 5, Castle Rock, WA"	Spr 1997
Garo Pehlivanian, "Case Study: Evaluation of a Building's Moment Framing System Which Suffered Cracking During the Northridge Earthquake"	Sum. 1997
M. Hoit, "An Investigation in the Seismic Design of Flange Plated Moment Resistant Connections"	Aut. 1997
R. Chmeilowski, "Force Transfer in Steel Columns Encased in Concrete"	Aut. 1997
P. Santos, March 1998, Analysis of Bond Stress Using ANSYS.	Win. 1998
Kimberley Scott, Evaluation of the Seismic Vulnerability of Substation Buildings.	Aut. 1998
Greg Coons, Seismic Design and Database of End Plate and T-Stub Connections.	Spr. 1999
Amy Skare, Fatigue Cracking and Repair of Coped Steel Bridge Stringers	Spr. 1999
Mark Gaines, A Study of Concrete Filled Steel Tube Columns in Bridge Design	Aut.2000
Robert Graff, Seismic Evaluation of Prestressed Pile-Wharf Connections	Spr 2001
Jennifer Soderstrom, Seismic Evaluation of Prestressed and Reinforced Concrete Pile-Wharf Deck Connections	Spr. 2001
Jung Han Yoo, Dynamic Analysis of Pile-to-Wharf Connections	Aut. 2001
Chad Gunderson, Braced Frame Connections with Concrete Filled Tube (CFT)Columns	Win. 2002
Adam Bergman, Evaluation of the Current use of AASHTO Live Load Deflection Limits in Steel Bridges	Win. 2002
Mellissa McKenry, Behavior of Concrete Filled Steel Tubes in Concentrically Braced Frames	Spr 2002
Russell A. Larsen, Strength, Stiffness, and Durability of Cotton Duck Bearing Pads for Bridge Applications (with Dawn Lehman)	Spr 2003
Ingvar Gunnarson, Numerical Performance Evaluation of Braced Frame Systems (Co-chaired with Dawn Lehman)	Aut 2004
Shawn Johnson, Improved Seismic Performance of Special Concentrically Braced Frames (Co-chaired with Dawn Lehman)	Spr 2005
Adam Christopoulos, Improved Seismic Performance of Buckling Restrained	Spr 2005

Braced Frames (Co-chaired with Dawn Lehman)	
Angela Kingsley Experimental and Analytical Investigation of Embedded Column Base Connections for Concrete Filled High Strength Steel Tubes (Co-chaired with Dawn Lehman)	Aut 2005
Travis Williams, Experimental Investigation of High Strength Concrete Filled Steel Tubes in Embedded Column Base Foundation Connection (Co-Chaired with Dawn Lehman)	Spr. 2006

Other Student Supervision (service on graduate degree committees)

Served on many MSCE and PhD committees.

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-	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

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

University of Washington Faculty Senate, 2002-03

Student Service

Community Service

Lateral Forces Committee, for SEAW (evaluates building code recommendations for city of Seattle and state of Washington) since 1992.

National Service

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

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-present)

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

Executive Committee, Structural Engineering Institute, ASCE, Reston, VA 2004 - present.

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

Board of Directors, Consortium of Universities for Earthquake Engineering, Richmond, CA, 2002 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

None

Consulting Experience (Typical – not complete)

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.

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 NCHRP 12-33 Project for the Development of a new AASHTO Specification 1988-90.

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

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

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

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 -Present)

Advisor to City of Seattle, for Lift Cylinder Evaluation and Replacement for Spokane Street Bridge (2001-2)

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).

