

# CIVIL AND CONSTRUCTION ENGINEERING

OREGON STATE UNIVERSITY

College of Engineering

**MILLER, Thomas H.**

Associate Professor

**BIRTH DATE**

September 7, 1958

## DEGREES

B.S, (with distinction), Civil Engineering, Cornell University, Ithaca, NY, May 1980  
M.E., Civil Engineering, Cornell University, Ithaca, NY, May 1981  
Ph.D., Civil Engineering, Cornell University, Ithaca, NY, January 1990

## ACADEMIC POSITIONS

Assistant Head for Civil Engineering, School of Civil and Construction Engineering, Oregon State University, 2006-present  
Associate Professor, School of Civil and Construction Engineering, Oregon State University, 1996-present  
Assistant Professor, Department of Civil Engineering, Oregon State University, 1989-1996

## NON-ACADEMIC POSITIONS

Structural Engineer, CH2M-Hill, Corvallis, OR, 2001-2002, 2004-present. Seismic rehabilitation design and anti-terrorist design.  
Civil Engineering Officer, 174th Tactical Fighter Wing, New York Air National Guard, Civil Engineering Squadron, 1986-1989. Designed a major modification of the Avionics Maintenance facility at Hancock Field, ANGB. Squadron Training Officer.  
Research Structural Engineer and Chief of Structural Response Section, Civil Engineering Research Division, Air Force Weapons Laboratory, Kirtland AFB, New Mexico, 1983-1985. Technical Director of conventional high-explosive test program to study weapons effects on protective facilities, utilities and equipment. Performed damage predictions for SALTY DEMO airbase survivability/ operability exercise.  
Survivability Initiatives Staff Officer, HQ United States Air Forces in Europe, Ramstein Air Base, Germany, 1981-1983. Structural consultant for protective facility projects in Europe. Developed design concept and performed survivability analysis for TR-1 large-wingspan aircraft shelters. Obtained international staff approval from NATO to increase protection levels of all semi-hardened facilities in Europe.

## FIELDS OF SPECIALIZATION

Structural Engineering: Analysis, Behavior and Mechanics  
Earthquake Engineering  
Wood Structures  
Cold-Formed Steel Structures  
Reinforced Concrete Bridges  
Protective Structures

## **PROFESSIONAL ACTIVITIES**

### **Registration**

Professional Engineer, Oregon (No. 14,996)

### **Professional Societies**

American Society of Civil Engineers, 1980-present  
Committee on Cold-Formed Members, 1996-2003, 2005-present  
Chair, 1998-2001  
Seismic Rehabilitation Standards Committee, 1997-present  
Structural Engineering Institute, 1997-present  
Faculty Advisor, OSU Student Chapter, 1997-present  
Faculty Advisor, OSU Steel Bridge Team, 1992-present  
American Society for Engineering Education, 1990-present  
American Iron and Steel Institute  
Subcommittee on Stud Design and Perforated Elements, 1992-present  
Subcommittee on Compression Members, 1995-present  
Subcommittee on Flexural Members, 1995-present  
Subcommittee on Element Behavior, 1995-present  
Consortium of Universities for Research in Earthquake Engineering, 2001-2003  
Earthquake Engineering Research Institute, 1992-present  
Faculty Advisor OSU Student Chapter, 1992-present  
Forest Products Society, 1995-1996  
Pacific Earthquake Engineering Research Center  
Undergraduate Internship Subcommittee, 1999-2001  
Structural Engineers Association of Oregon, 1993-present  
Wood Design Advisory Committee, 1990-1995, 1999-2004

### **Professional Recognition**

ASCE Zone IV Outstanding Student Chapter Faculty Advisor Award, 1999, 2003, 2006  
ASCE Faculty Advisor Certificate of Commendation, 2004, 2005, 2007  
Lloyd Carter Award for Outstanding Teaching, OSU College of Engineering, 1997  
ASCE Student Chapter Teacher of the Year, 2005, 2006  
Mortar Board Top Prof, 1997, 2003  
Truss Plate Institute Annual Award for Excellence in Truss Research, 1995  
Austin-Paul Engineering Faculty Award, OSU College of Engineering, 1991  
Tau Beta Pi, 1979-present  
Faculty Advisor OSU Student Chapter, 1991-1995  
L.L. Stewart Faculty Development Award, 1990, 1998  
Andrew D. White Fellow, Cornell University, 1985-1987  
Air Force Commendation Medal, 1983  
Graduated first in the College of Engineering, Cornell University, 1980  
Fuertes Medal Undergraduate, Cornell University, 1980  
Distinguished Graduate of Air Force ROTC, Cornell University, 1980  
Chi Epsilon, 1980

## PUBLICATIONS

### Technical Journals

- P. Baxter, T.H. Miller, and R. Gupta, "Seismic Screening, Evaluation, Rehabilitation and Design Provisions for Wood-Framed Structures," *Practice Periodical on Structural Design and Construction*, ASCE, in press, November, 2007.
- R. J. Leichti, K. Kleemann, and T.H. Miller. "Boundary condition role in tests of wood compression webs," *Journal of Testing and Evaluation*, 35(5):539-543, 2007.
- K. Chansawat, S.C.S. Yim and T.H. Miller, "Nonlinear Finite Element Analysis of a FRP-Strengthened Reinforced Concrete Bridge," *Journal of Bridge Engineering*, ASCE, 11(1), pp. 21-32, January 2006.
- C. Higgins, T.K. Daniels, D.V. Rosowsky, T.H. Miller and S.C. Yim, "Assessment and Risk Ranking of Conventionally Reinforced Concrete Bridges for Shear," *Transportation Research Record*, No. 1928, pp. 110-117, 2005.
- R.J. Scott, R.J. Leichti and T.H. Miller, "Finite Element Modeling of Log Wall Lateral Force Resistance," *Forest Products Journal*, 55(9), pp. 48-54, September 2005.
- M.J. Donahue, S.E. Dickenson, T.H. Miller and S.C. Yim, "Implications of the Observed Seismic Performance of a Pile Supported Wharf for Numerical Modeling," *Earthquake Spectra*, EERI, Vol. 21, No. 3, pp. 617-634, August 2005.
- R. Gupta, T.H. Miller and M.R. Kittel, "Small-Scale Modeling of Metal-Plate-Connected Wood Truss Joints," *Journal of Testing and Evaluation*, ASTM, Vol. 33, No. 3, pp. 139-149, May 2005.
- R.J. Scott, R.J. Leichti and T.H. Miller, "An Experimental Investigation of Foundation Anchorage Details and Base Shear Capacity for Log Buildings," *Forest Products Journal*, pp. 38-45, April 2005.
- R. Gupta, T.H. Miller and S.M.W. Freilinger, "Short-term Cyclic Performance of Metal-Plate-Connected Wood Truss Joints," *Structural Engineering and Mechanics - An International Journal*, Vol. 17, No. 5, pp. 627-639, May 2004.
- R. Gupta, T.H. Miller and M.J. Redlinger, "Behavior of Metal-Plate-Connected Wood Truss Joints under Wind and Impact Loads," *Forest Products Journal*, Vol. 54, No. 3, pp. 76-84, March 2004.
- J.D. Langlois, R. Gupta, and T.H. Miller, "Effects of Reference Displacement and Damage Accumulation in Wood Shear Walls," *Journal of Structural Engineering*, ASCE, Vol. 130, No. 3, pp. 470-479, March 2004.
- R. Gupta, T.H. Miller and D. Dung, "Practical Solution to Wood Truss Assembly Design Problems," *Practice Periodical on Structural Design and Construction*, ASCE, Vol. 9, No. 1, pp. 54-60, February 2004.
- R. Gupta, L.R. Heck, and T.H. Miller, "Experimental Evaluation of the Torsion Test for Determining Shear Strength of Structural Lumber," *Journal of Testing and Evaluation*, ASTM, Vol. 30, No. 4, pp. 283-290, July 2002.
- R. Gupta, L.R. Heck, and T.H. Miller, "Finite-Element Analysis of the Stress Distribution in a Torsion Test of Full-Size, Structural Lumber," *Journal of Testing and Evaluation*, ASTM, Vol. 30, No. 4, pp. 291-302, July 2002.
- Y.K. Lee and T.H. Miller, "Axial Strength Determination for Gypsum-Sheathed, Cold-Formed Steel Wall Stud Composite Panels," *Journal of Structural Engineering*, ASCE, Vol. 127, No. 6, pp. 608-615, June 2001.
- Y.K. Lee and T.H. Miller, "Limiting Heights for Gypsum-Sheathed, Cold-Formed Steel Wall Studs," *Practice Periodical on Structural Design and Construction*, ASCE, Vol. 6, No. 2, pp. 83-89, May 2001.

- Y.K. Lee and T.H. Miller, "Axial Strength of Gypsum-Sheathed Cold-Formed Steel Wall Studs," *Journal of Civil Engineering (Structural Engineering)*, Korean Society of Civil Engineers, Vol. 4, No. 4, pp. 175-181, December 2000.
- M.E. Waltz, Jr., T.E. McLain, T.H. Miller, and R.J. Leichti, "Analysis Methods for Design of Wood-Truss Compression Webs," *Journal of Structural Engineering*, ASCE, Vol. 126, No. 9, pp. 1086-1093, September 2000.
- W.J. Kirkham and T. H. Miller, "Examination of AISC LRFD Shear Lag Design Provisions," *Engineering Journal*, AISC, Vol. 37, No. 3, pp. 83-98, 2000.
- Z. Li, R. Gupta, and T.H. Miller, "A Practical Approach to Modeling of Wood Truss Roof Assemblies," *Practice Periodical on Structural Design and Construction*, ASCE, Vol. 3, No. 3, pp. 119-124, August 1998.
- M. Vatrovec, T.H. Miller, R. Gupta, and S. Lewis, "Modeling of Metal-Plate-Connected Wood Truss Joints: Part II - Application to Overall Truss Model," *Transactions of the ASAE*, Vol. 40, No. 6, pp. 1667-1675, December 1997.
- M.E. Magaña, P. Volz, and T.H. Miller, "Non-linear Decentralized Control of a Flexible Cable-Stayed Beam Structure," *Journal of Vibration and Acoustics*, ASME, Vol. 119, No. 4., pp. 523-526, October 1997.
- S.M. Kent, R. Gupta, and T.H. Miller, "Dynamic Behavior of Metal-Plate-Connected Wood Truss Joints," *Journal of Structural Engineering*, ASCE, Vol. 123, No. 8, pp. 1037-1045, August 1997.
- M. Vatrovec, T.H. Miller, and R. Gupta, "Modeling of Metal-Plate-Connected Wood Truss Joints," *Transactions of the ASAE*, ASAE, Vol. 39, No. 3, pp. 1101-1111, 1996.
- M. Vatrovec, R. Gupta, and T.H. Miller, "Testing and Evaluation of Metal-Plate-Connected Wood Truss Joints," *Journal of Testing and Evaluation*, ASTM, Vol. 24, No. 2, pp. 63-72, March 1996.
- B. Kasal and T.H. Miller, "Stress Design of Wood Beam-Columns Using Exact Second-Order Moments," *Forest Products Journal*, Vol. 45, No. 7/8, pp. 51-53, July/August 1995.
- T.H. Miller and T. Pekoz, "Behavior of Gypsum-Sheathed Cold-Formed Steel Wall Studs," *Journal of Structural Engineering*, ASCE, Vol. 120, No. 5, pp. 1644-1650, May 1994.
- T.H. Miller and T. Pekoz, "Effects of Loading Eccentricity on Cold-Formed Steel Lipped-Channel Columns," *Journal of Structural Engineering*, ASCE, Vol. 120, No. 3, pp. 805-823, March 1994.
- T.H. Miller and T. Pekoz, "Unstiffened Strip Approach for Perforated Wall Studs," *Journal of Structural Engineering*, ASCE, Vol. 120, No. 2, pp. 410-421, February 1994.
- T.H. Miller and T. Pekoz, "The Behavior of Cold-Formed Steel Wall Stud Assemblies," *Journal of Structural Engineering*, ASCE, Vol. 119, No. 2, pp. 641-651, February 1993.

### Conference Proceedings

- S. Frey and T.H. Miller, "Structural Engineering Instruction: From the Outside In," *Proceedings of the 2005 ASEE Annual Conference and Exposition*, Portland, OR, June, 2005, 8 pp.
- C. Higgins, T.K. Daniels, D. Rosowsky, T.H. Miller and S.C. Yim, "Assessment and Risk-Ranking of Conventionally Reinforced Concrete Bridges for Shear," 84<sup>th</sup> Annual Meeting of the Transportation Research Board, Washington, DC, January 2005.
- R. Gupta, T.H. Miller, P. Seaders, K. White and M. Clauson, "Seismic Performance of Wood Shear Walls," *Biographies and Abstracts, Forest Products Society 58th Annual Meeting*, Grand Rapids, Michigan, June, 2004.
- C. Eiden, R. Leichti, T. Miller, M. Clauson, "Dynamic Analysis of Heavy Timber Structures with Friction Dampers," *Proceedings of the 8<sup>th</sup> World Conference on Timber Engineering*, Lahti, Finland, June, 2004, Vol. II, pp. 475-480.
- P. Seaders, R. Gupta and T. Miller, "Performance of Code-Prescribed Wood Shear Walls," *Proceedings of the 8<sup>th</sup> World Conference on Timber Engineering*, Lahti, Finland, June, 2004, Vol. I, pp. 123-128.

- M.J. Donahue, S.E. Dickenson, T.H. Miller, S.C. Yim, "Comparison of 3D Non-Linear Modeling to Recorded Seismic Response for a Pile Supported Wharf," *Proceedings of Ports 2004 Conference- Port Development in the Changing World*, ASCE, Houston, TX, May 2004, 10 pp.
- J.L. Langlois, R. Gupta, and T.H. Miller, "Reference Displacement Effects in Wood Shear Walls Subjected to the CUREE Protocol," *Proceedings of the 7<sup>th</sup> World Conference on Timber Engineering*, Shah Alam, Malaysia, August 2002, pp. 447-454.
- R.J. Leichti, A. Tjahyadi, A. Bienhaus, R. Gupta, T. Miller, and S. Duff, "Design and Behavior of Friction Dampers for Two-Dimensional Braced and Moment-Resisting Timber Frames," *Proceedings of the 7<sup>th</sup> World Conference on Timber Engineering*, Shah Alam, Malaysia, August 2002, pp. 267-274.
- T. Potisuk, D.I. Kachlakev, T.H. Miller, and S.C.S. Yim, "Experimental Verification of FE Models of FRP Strengthened RC Beams," *Proceedings of the Society for Experimental Mechanics Annual Conference on Experimental and Applied Mechanics*, Portland, OR, June 2001, pp. 620-623.
- K. Chansawat, D.I. Kachlakev, T.H. Miller, and S.C.S. Yim, "FE Modeling and Experimental Verification of an FRP Strengthened Bridge," *Proceedings of the Society for Experimental Mechanics Annual Conference on Experimental and Applied Mechanics*, Portland, OR, June 2001, pp. 624-627.
- T. Potisuk, D.I. Kachlakev, T.H. Miller, and S.C.S. Yim, "Effects of Shear Strengthening with GFRP on Reinforced Concrete Beams," *Proceedings of the 46th International Symposium of the Society for the Advancement of Material and Process Engineering*, Long Beach, CA, May 2001, pp. 1759-1771.
- K. Chansawat, D.I. Kachlakev, T.H. Miller, and S.C.S. Yim, "FEA of the Horsetail Creek Bridge Strengthened with FRP Laminates," *Proceedings of the 46th International Symposium of the Society for the Advancement of Material and Process Engineering*, Long Beach, CA, May 2001, pp. 1772-1783.
- D. Dung, R. Gupta and T.H. Miller, "A Practical Method to Model the System Effects of a Metal-Plate-Connected Wood Truss Assembly," ASAE Paper No. 004039, ASAE Annual International Meeting, Milwaukee, July 2000.
- Y.K. Lee and T.H. Miller, "Nominal Axial Strength Evaluation for Wall-Braced Wall Stud Column," *Proceedings of the 1999 Conference sponsored by the Korean Society of Civil Engineers*, Kyung-Ju City, South Korea, October 1999, pp. 189-192.
- M. Redlinger, R. Gupta, and T.H. Miller, "Performance of Metal-Plate-Connected Wood Truss Heel Joints Under Wind and Impact Loads," *Proceedings of the RILEM Symposium on Timber Engineering*, Stockholm, Sweden, September 1999.
- M.E. Waltz, T.E. McLain, T.H. Miller and R.J. Leichti, "Validating Procedures for Compression Web Bracing in Light Frame Wood Trusses," *Proceedings of the Pacific Timber Engineering Conference*, Rotorua, New Zealand, March 1999.
- M.R. Kittel, R. Gupta, and T.H. Miller, "Small-Scale Modeling of Metal-Plate-Connected Wood Truss Joints," *Proceedings of the World Conference on Timber Engineering*, Montreux, Switzerland, August 1998, 2 pp.
- L.R. Heck, R. Gupta, and T.H. Miller, "The Shear Strength of Full-Scale Structural Lumber Using Torsion Tests," *Proceedings of the World Conference on Timber Engineering*, Montreux, Switzerland, August 1998, 8 pp.
- S. Freilinger, R. Gupta, and T.H. Miller, "Cyclic Performance of Wood Truss Joints," *Proceedings of 'Building to Last: Structures Congress XV,'* Vol. 2, ASCE, Portland, OR, April 1997, pp. 939-943.

- S.M. Kent, R. Gupta and T.H. Miller, "Earthquake Effects on Metal-Plate-Connected Wood Truss Joints," *Proceedings of 'Earthquake Performance and Safety of Timber Structures,'* Forest Products Society, Madison, WI, 1997, pp. 92-100.
- Z. Li, R. Gupta, and T.H. Miller, "A Practical Approach to Model Wood Truss Roof Assemblies," *Proceedings of the International Wood Engineering Conference*, New Orleans, LA, October 1996, pp. 1-259 to 1-266.
- S.M. Kent, R. Gupta, and T.H. Miller, "Dynamic Behavior of Metal-Plate-Connected Wood Truss Joints," *Proceedings of the International Wood Engineering Conference*, New Orleans, LA, October 1996, pp. 1-115 to 1-122.
- S. Freilinger, R. Gupta, and T.H. Miller, "Dynamic Performance of Metal-Plate-Connected Wood Joints," ASAE Paper No. 964114, American Society of Agricultural Engineers International Meeting, Phoenix, AZ, July 1996, 11 pp.
- M. Vatovec, T.H. Miller, and R. Gupta, "Finite-Element Analysis of the Overall Behavior of a Metal-Plate-Connected Wood Scissors Truss," ASAE Paper No. 964103, American Society of Agricultural Engineers International Meeting, Phoenix, AZ, July 1996, 19 pp.
- A.M. Miller, K. Weerakul, T.H. Miller, and R.J. Leichti, "Modeling a Light-Frame Structure Comprised of Foam-Core Stressed-Skin Panels," Forest Products Society Annual Meeting, Technical Forum Presentation, Portland, OR, June 1995, 6 pp.
- M. Vatovec, R. Gupta, and T.H. Miller, "Finite Element Modeling of Metal-Plate-Connected Joints in Wood Trusses," ASAE Paper No. 954586, American Society of Agricultural Engineers International Meeting, Chicago, IL, June 1995, 20 pp.
- S. Kent, R. Gupta, and T.H. Miller, "Dynamic Effects on Metal-Plate-Connected Wood Truss Joints," ASAE Paper No. 954458, American Society of Agricultural Engineers International Meeting, Chicago, IL, June 1995, 17 pp.
- S. Kent, R. Gupta, and T.H. Miller, "Dynamic Effects on Metal-Plate-Connected Wood Truss Joints," 28th CIB-W18 (Timber Structures) Meeting, Copenhagen, Denmark, April 1995, 12 pp.
- M. Vatovec, R. Gupta, and T.H. Miller, "Strength and Stiffness of Metal-Plate-Connected Scissors Truss Joints," ASAE Paper No. 944550, St. Joseph, MI, 1994 International Meeting sponsored by the American Society of Agricultural Engineers, Atlanta, GA, December 1994, 16 pp.
- P. Volz, M.E. Magaña, A.G. Hernried, and T.H. Miller, "A Decentralized Active Controller for Cable-Stayed Bridges," *Proceedings of the First World Conference on Structural Control*, Vol. 3, pp. FA1-13 to FA1-22, Los Angeles, CA, August 1994.
- B. Kasal, R.J. Leichti, A.M. Miller, and T.H. Miller, "Expansion Analysis to Determine Stresses for Individual Elements in Light-Framed and Foam-Core-Panel Wood Buildings," *Proceedings of the Second International Workshop on Full-Scale Behavior of Low Rise Buildings*, James Cook University of North Queensland, Townsville, Australia, July 1994, 11 pp.
- M. Vatovec, R. Gupta, and T.H. Miller, "Influence of Joint Stiffnesses on the Behavior of Wood Trusses," ASAE Paper No. 934004, St. Joseph, MI, 1993 International Summer Meeting sponsored by the American Society of Agricultural Engineers and the Canadian Society of Agricultural Engineering, Spokane, WA, June 1993, 12 pp.
- T.H. Miller and T. Pekoz, "Studies on the Behavior of Cold-Formed Steel Wall Stud Assemblies," *Proceedings of the Tenth International Specialty Conference on Cold-Formed Steel Structures*, St. Louis, MO, October 1990, pp. 149-166.

### Reports and Others

- R. Leichti, R. Scott, T. Miller, and J. Sharpe, "Lateral Resistance of Walls and Anchorage in Log Structures," *Structure*, ASCE-SEI, March 2006, pp. 40-43.
- C. Higgins, T.H. Miller, D.V. Rosowsky, S.C. Yim, T. Potisuk, T.K. Daniels, B.S. Nicholas, M.J. Robelo, A-Y. Lee, and R. W. Forrest, SPR-350 and SR 500-091 Final Report, "Assessment

- Methodology for Diagonally Cracked Reinforced Concrete Deck Girders," Oregon Department of Transportation, Salem, OR and Federal Highway Administration, Washington, DC, October 2004, 340 pp. + appendices.
- R. Leichti, R. Scott and T. Miller, "Lateral Resistance of Log Walls and Foundation Anchorage," *Wood Design Focus*, Vol. 14, No. 1, Spring, 2004, pp. 3-7.
- C. Higgins, S.C. Yim, T.H. Miller, M.J. Robelo, and T. Potisuk, "Remaining Life of Reinforced Concrete Beams with Diagonal-Tension Cracks," Final Report, SPR 341, Report No. FHWA-OR-RD-04-12, for Oregon Department of Transportation, Salem, OR and Federal Highway Administration, Washington, DC, April 2004, 124 pp. + appendices.
- C. Higgins, W.C. Farrow III, T. Potisuk, T. H. Miller, S.C. Yim, G. R. Holcolm, S.D. Cramer, B. S. Covino, S.J. Bullard, M. Ziomek-Moroz and S.A. Matthes, "Shear Capacity Assessment of Corrosion-Damaged Reinforced Concrete Beams," Final Report, SPR 326, Report No. FHWA-OR-RD-04-06, for Oregon Department of Transportation, Salem, OR, and Federal Highway Administration, Washington, DC, December, 2003, 88 pp. + appendices.
- C. Higgins, T.H. Miller, D.V. Rosowsky, S.C. Yim, T. Daniels, W.C. Farrow III, B. Nicholas, T. Potisuk, M. Robelo, "SPR-350 Interim Report: Research on the Capacity and Remaining Life of 1950's Vintage Conventionally Reinforced Concrete Bridges with Diagonal-Tension Cracks," Structural Engineering Group, Department of Civil, Construction and Environmental Engineering, Oregon State University, Corvallis, OR, July, 2003, 139 pp.
- B.W. Schafer, E. DiGirolamo, M. Eiler, J. Fisher, R. Lindenberg, R.L. Madsen, M. Mettler, T.H. Miller, D. Peyton, G. Polard, T. Roecker, C. Rogers, N.E. Shanmugam and S.H. Walker, "Accommodating Building Deflections: What every EOR should know about accommodating deflections in secondary cold-formed steel systems," *Structure* magazine, April 2003, pp. 16-18.
- H. Choi, K. Lucksiri, and T.H. Miller, "Composite Wall Tests for Steel Stud Manufacturers Association," CCEE Department, Oregon State University, Corvallis, OR, August 2001, 166 pp.
- D. Kachlakev, T. Miller, S. Yim, D. Seamanontaprianya, "Behavior of FRP Composite-Strengthened Beams under Static and Cyclic Loading," Summary Report, Project 387.011, for Oregon Department of Transportation, Salem, OR, and Federal Highway Administration, Washington, DC, June 2001, 5 pp.
- D. Kachlakev, T. Miller, S. Yim, K. Chansawat and T. Potisuk, "Finite Element Modeling of Concrete Structures Strengthened with FRP Laminates," Final Report, SPR 316, Report No. FHWA-OR-RD-01-17, for Oregon Department of Transportation, Salem, OR, and Federal Highway Administration, Washington, DC, May 2001, 111 pp.
- R. Gupta and T. Miller, "Up on the Roof: Researchers Study System Effects in Wood Truss Assemblies," *Resource* magazine, American Society of Agricultural Engineers, November 2000, pp. 9-10.
- T. MacKenzie and T.H. Miller, "Local Buckling of Cold-Formed Steel Stub Columns with Various Shapes and Sizes of Web Perforations," Oregon State University, CCEE Department, Corvallis, OR, October 2000, 235 pp.
- P. Limkatanyoo and T. H. Miller, "Integrated Visualization of Structural Behavior," Oregon State University, CCEE Department, Corvallis, OR, October 2000, 173 pp.
- T.H. Miller and Y.K. Lee, "Testing of Cold-Formed Steel Slide Clip Connections," Department of Civil, Construction and Environmental Engineering, Oregon State University, September 1999, 11 pp.
- N. Charoenmak and T.H. Miller, "Finite Element Modeling of Cold-Formed Steel Stub Columns with Various Shapes and Sizes of Web Perforations," Department of Civil, Construction and Environmental Engineering, Oregon State University, January 1999, 148 pp.

- B.A. Vinson and T.H. Miller, "Pilot Project: Eugene-Springfield Earthquake Damage and Loss Estimate," Department of Civil, Construction and Environmental Engineering, Oregon State University, January 1999, 47 pp., and Data Appendix, HAZUS Input/Output Appendix.
- E.W. Tornberg and T.H. Miller, "Engineering Analysis for the Manufactured Home Anchoring Task Force," Department of Civil, Construction and Environmental Engineering, Oregon State University, July 1998, 88 pp.
- Y.K. Lee and T.H. Miller, "Final Report on Composite Wall Tests," Department of Civil, Construction and Environmental Engineering, Oregon State University, July 1997, 175 pp.
- Y.K. Lee and T.H. Miller, "Final Report on Shaft Wall Tests," Department of Civil, Construction and Environmental Engineering, Oregon State University, April 1997, 73 pp.
- R. Gupta, M. Vatovec, and T.H. Miller, "Metal-Plate-Connected Wood Joints: A Literature Review," Forest Research Laboratory, Research Contribution 13, Oregon State University, April 1996, 37 pp.
- Y.K. Lee and T.H. Miller, "Analysis of Gypsum-Sheathed Cold-Formed Steel Wall Stud Panels," Dept. of Civil Engineering, Oregon State University, October 1995, 226 pp.
- J.M. Neuschwander and T.H. Miller, "Pressure Vessel Supports: A Seismic Evaluation for Oregon," Dept. of Civil Engineering, Oregon State University, July 1995, 98 pp.
- K. Sucharitsanchai, S.R. Trautwein, and T.H. Miller, "Seismic Analysis, Conceptual Design and Cost Estimate for Rehabilitation of URM Buildings on the OSU Campus," Dept. of Civil Engineering, Oregon State University, July 1995, 213 pp.
- T.H. Miller, "Static and Cyclic Testing of Cold-Formed Steel Connections," Dept. of Civil Engineering, Oregon State University, September 1994, 21 pp.
- T.H. Miller, J.D. Ferguson, G.B. Ch'ng, "Seismic Risk Assessment and Retrofit Design Concepts for Oregon State University Campus Buildings," Dept. of Civil Engineering, Oregon State University, June 1993, 251 pp.
- T.H. Miller, G. Ch-ng, J. Ferguson, "Structural Evaluation of Student Life Facilities at Oregon State University for Potential Seismic Hazards," Dept. of Civil Engineering, Oregon State University, August 1992, 176 pp.
- T.H. Miller, G. Ch-ng, J. Ferguson, "Preliminary Evaluation of Student Life Facilities at Oregon State University for Potential Seismic Hazards," Dept. of Civil Engineering, Oregon State University, July 1992, 72 pp.
- T.H. Miller, J. Ferguson, A. Mann, J. Henegar, "Structural Evaluation of Academic Facilities at Oregon State University for Potential Seismic Hazards," Dept. of Civil Engineering, Oregon State University, February 1992, pp. 623 pp.
- T.H. Miller, J. Ferguson, A. Mann, D. Arguedas, "Preliminary Evaluation of Academic Facilities at Oregon State University for Potential Seismic Hazards," Dept. of Civil Engineering, Oregon State University, December 1991, 209 pp.
- T.H. Miller, "Testing of Cold-Formed Steel Wall Stud Panels Subject to Lateral Loadings," Final Report for Metal Stud Manufacturer's Association, Dept. of Civil Engineering, Oregon State University, Corvallis, OR, October 1990, 124 pp.
- T.H. Miller, "Behavior of Cold-Formed Steel Wall Stud Assemblies Subject to Eccentric Axial Loads," Ph.D. Dissertation, Cornell University, Ithaca, NY, January 1990, 288 pp.
- T.H. Miller, "Evaluation of Stub Column Test Results," Report for Metal Lath/Steel Framing Association, Corvallis, OR, January 1990, 31 pp.
- T.H. Miller, T. Pekoz, "Studies on the Behavior of Cold-Formed Steel Wall Stud Assemblies," Report, Cornell University, School of Civil and Environ. Engineering, Ithaca, NY, November 1989, 288 pp.

## RESEARCH

### Current Research

“Gypsum-Sheathed, Cold-Formed Steel Stud Wall Testing,” SCAFCO Steel Stud Manufacturing Co., May 15, 2007 – March 31, 2008 (\$68,700 service and testing contract).

### Prior Research

"Statewide Seismic Needs Assessment Project," Oregon Department of Geology and Mineral Industries, June 2006 – December 2006 (\$77,764).

“Dynamic Performance of Wood Shear Walls Under Actual Earthquake Records,” (co-PI with Rakesh Gupta), U.S. Department of Agriculture, October 2002 – November 2006 (\$115,000).

“FEMA 154 Seismic Evaluations of Community Colleges,” Oregon Department of Community Colleges and Workforce Development, July 2005 - December 2005 (\$15,000 service and testing contract).

"Strength Deterioration Models and Repair Methods for Shear-Cracked Reinforced Concrete Bridges - Phase I," ODOT, October 2002 – June 2004, co-PI with Chris Higgins and Solomon Yim (\$1,575,300).

“FEMA 154 Seismic Evaluations of Community Colleges,” Oregon Department of Geology and Mineral Industries, February 15, 2004 - August 15, 2004 (\$4,025 service and testing contract).

“Remaining Life of Reinforced Concrete Beams with Shear Cracks,” (co-PI with Chris Higgins and Solomon Yim), Oregon Department of Transportation, September 2001–August 2003 (\$160,000).

“Shear Capacity Assessment of Corrosion-Damaged Reinforced Concrete Beams,” (co-PI with Chris Higgins, Solomon Yim and Albany Research Center), Oregon Department of Transportation, May 2001–December 2002 (\$92,000).

“Composite Wall Testing,” Steel Stud Manufacturer’s Association, April 24, 2000–September 30, 2001 (\$22,000 service and testing contract).

“Finite Element Method Modeling for Composite Strengthening/Retrofit of Bridges,” (Co-PI with D. Kachlakev and S. Yim), Oregon Department of Transportation, July 15, 1998–March 31, 2001 (\$93,979).

“Slide Clip Connection Tests,” Scafco Corporation, December 12, 1998–September 30, 1999 (\$3,515 service and testing contract).

“Pilot Project: Eugene-Springfield Earthquake Damage and Loss Estimate,” State of Oregon Department of Geology and Mineral Industries, March 1, 1997–January 31, 1999 (\$9,250).

“Engineering Services for the Manufactured Home Anchoring Task Force,” State of Oregon Building Codes Division, January 1, 1998-June 15, 1998 (\$13,500).

“Robust Nonlinear Decentralized Control of Cable Supported Bridge Structures,” (Co-PI with A. Hernried and M. Magaña), National Science Foundation, August 15, 1993-December 31, 1997 (\$204,900).

“Dynamic Characteristics of Metal-Plate-Connected Wood Joints,” (Co-PI with R. Gupta), U.S. Department of Agriculture, September 15, 1994-September 30, 1997 (\$85,000).

“Stub Column Testing - Pilot Project,” Metal Stud Manufacturers Association, February 12, 1997-August 15, 1997 (\$4000 service and testing contract).

“Vertical Testing of Composite Wall Panels Subject to Lateral Loadings,” Metal Lath/Steel Framing Association, February 23, 1996-July 31, 1997 (\$6,930 service and testing contract).

“Vertical Testing of Composite Wall Panels Subject to Lateral Loadings,” Metal Stud Manufacturers Association, December 1, 1995-July 31, 1997 (\$11,550 service and testing contract).

“Vertical Testing of Shaft Walls Subject to Lateral Loadings,” Knorr Steel Framing Systems, Inc., May 20, 1996-April 30, 1997 (\$4,620 service and testing contract).

- “Development of Seismic Rehabilitation Master Plan for the Oregon State University Campus,” Oregon State University, July 1, 1994-October 31, 1995 (\$21,256).
- “Static and Cyclic Testing of Cold-Formed Steel Connections,” Devco Engineering, Inc., March 1, 1994-September 30, 1994 (\$1600 service and testing contract).
- “Preliminary Seismic Analysis and Testing of Wood Connections,” (Co-PI with Rakesh Gupta), Oregon State University General Research Fund, November 1, 1993-June 30, 1994 (\$4,000).
- “Seismic Rehabilitation Cost-Benefit Study of Selected OSU Facilities,” Oregon State University, March 1, 1992-July 1, 1993 (\$29,210).
- “Seismic Risk Assessment for Student Life Facilities at OSU,” Oregon State University, March 1-August 1, 1992 (\$5,100).
- “Seismic Risk Assessment for Academic Facilities at OSU,” Oregon State University, July 1, 1991-February 29, 1992 (\$12,732).
- “Testing of Cold-Formed Steel Wall Stud Panels Subject to Lateral Loadings,” Metal Stud Manufacturer's Association, June 1-December 31, 1990 (\$10,685 + \$11,039 service and testing contract).

## **TEACHING**

### **Courses Taught at Oregon State University**

CE 381	Structural Theory I
CE 383	Design of Steel Structures
CE 480/580	Advanced Steel Design
CE 481/581	Reinforced Concrete I
CE 482/582	Wood Design
CE 489/589	Seismic Design
CE 533	Structural Stability
CE 534	Structural Dynamics
CEM 381	Structural Fundamentals
ENGR 211	Statics
ENGR 213	Strength of Materials