

## General Biographical Information

Dorothy Aubrey Reed  
Department of Civil and Environmental Engineering  
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## Academic Background

Princeton University	Ph.D.	1980
Princeton University	MSE	1977
University of South Carolina	BSCE, <i>magna cum laude</i>	1976

## Professional History

*Professor of Civil Engineering*, Sept. 1994-present; *Associate Dean for Academic Affairs*, College of Engineering, August 1994-97; *Associate Professor of Civil Engineering* (with tenure), September 1988-94; *Assistant Professor of Civil Engineering*, September 1983-1988; on leave from January-December, 1987; Department of Civil Engineering, University of Washington, Seattle, WA.

*Visiting Assistant Professor of Civil Engineering*, January-December, 1987; Department of Civil Engineering, Carnegie-Mellon University, Pittsburgh, PA.

*Research Structural Engineer*, November 1982-August 1983; *NRC-NBS Postdoctoral Research Associate*, November 1980-82; National Bureau of Standards, Center for Building Technology, Gaithersburg, MD (now called the National Institute of Standards and Technology).

*Research/Teaching Assistant*, Fall 1976-Summer 1980; Department of Civil Engineering, Princeton University, Princeton, NJ.

*Technical Assistant*, Summer 1976; Design and Drafting Department, EXXON Company, Baytown, TX.

*Laboratory Assistant*, Summer 1975; University of South Carolina, Columbia, SC.

## Refereed Journal Publications.

Olson, D.E. and D.A. Reed, "A Nonlinear Numerical Model for Sloped-Bottom Tuned Liquid Dampers," *Earthquake Engineering and Structural Dynamics*, 2001, Vol. 30, pp. 731-743.

Park, Jaewook and D.A. Reed, "Analysis of Uniformly and Linearly Distributed Mass Dampers," *Engineering Structures*, 2001, Vol. 23, pp. 802-814.

Gardarsson, S., H. Yeh and D.A. Reed, "The Behavior of Sloped-Bottom Tuned Liquid Dampers," *J. Engr. Mech.*, ASCE, Vol. 127, No. 3, March, 2001, pp. 266-271.

Yu, Jin-kyu, Toshihiro Wakahara and D.A. Reed, "A Nonlinear Numerical Model of the Tuned Liquid Damper," *Earthquake Engineering and Structural Dynamics*, Vol. 28, 1999, pp. 671-686.

Reed, D.A., H. Yeh, J. Yu, and S. Gardarsson, "Tuned Liquid Dampers Under Large Amplitude Excitation," *Journal of Wind Engineering and Industrial Aerodynamics*, 74-76, 1998, pp. 923-930.

Reed, D.A., J. Yu, H. Yeh and S. Gardarsson, "Experimental and Theoretical Investigations of Tuned Liquid Dampers," *Journal of Engineering Mechanics*, ASCE, Vol. 124, No. 4, April, 1998, pp. 405-413.

Turkiyyah, G.M., D.A. Reed and J. Yang, "Fast Vortex Methods for Predicting Wind-Induced Pressures on Buildings," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 58, 1995, pp. 51-79.

Jones, N.P., D.A. Reed and J.E. Cermak, "A National Wind Hazards Reduction Program," *Journal of Professional Issues in Engineering Education and Practice*, ASCE, Vol. 121, No. 1, Jan, 1995, pp. 41-45.

Naeher, F., D.A. Reed and S.J. Fenves, "An Object-Oriented Programming Approach to Wind Safety Analysis," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 48, 1993, pp. 63-77.

Reed, D.A., "Influence of Non-Gaussian Local Pressures on Cladding Glass," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 48, 1993, pp. 51-61.

Reed, D.A., "Treatment of Uncertainty in Structural Damage Assessment," *Reliability Engineering and System Safety*, Vol. 39, 1993, pp. 55-64

Snaebjornsson, J.T. and D.A. Reed, "Full-Scale Results for Wind-Induced Motion of Multi-Story Buildings," *Journal of Wind Engineering and Industrial Aerodynamics*, Oct., 1992, pp. 1113-1123.

Reed, D.A. and C.B. Brown, "Reliability in the Context of Design," *Structural Safety*, Vol. 11, 1992, pp. 109-119.

Reed, D.A. and W.M. Chen, "An Object-Oriented Approach to Structural System Safety," *Engineering Structures*, Vol. 13, Oct., 1991, pp. 351-356.

- Snaebjornsson, J.T. and D.A. Reed, "Wind-Induced Accelerations of a Building: A Case Study," *Engineering Structures*, Vol. 13, July, 1991, pp. 268-280.
- Chen, W.M. and D.A. Reed, "Structural Safety Assessment," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 36, 1990, pp. 1259-1268.
- Reed, D.A., "Reliability of Multi-Component Assemblages," *Reliability Engineering and System Safety*, Vol. 27, 1990, pp. 167-178.
- Reed, D.A., "Expert Systems in Wind Engineering," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 33, 1990, pp. 487-494.
- Reed, D.A., "The Use of Bayes Networks in Evaluating Structural Safety," *Civil Engineering Systems*, Vol. 5, No. 2, June, 1988, pp. 93-99.
- Reed, D.A., "Risk Assessment for Cladding Glass: An Expert Systems Approach," *U.S. Woman Engineer*, Jan.-Feb., 1988, pp. 12-13.
- Reed, D.A., "The Use of Field Parameters in Wind Engineering," *Journal of Structural Engineering*, Vol. 113, No. 7, July, 1987, pp. 1570-1585.
- Reed, D.A., "Damage Function Results for Glass Cladding," *Journal of Structural Engineering*, Technical Note, 1986.
- Reed, D.A. and F. Engelsen, "Load Capacities of Glass Panels," *Engineering Structures*, Vol. 8, Jan., 1986, pp. 64-69.
- Reed, D.A. and E.R. Fuller, Jr., "Glass Strength Degradation Under Fluctuating Load Conditions," *Journal of Structural Engineering*, Vol. 111, No. 7, July, 1985, pp. 1460-1467.
- Reed, D.A. and R.C. Brandt, "Fracture Mirror Results for Weathered and Unweathered Window Glass Panels," *Communications of the Journal of the American Ceramic Society*, Nov., 1984.
- Reed, D.A. and E. Simiu, "Wind Loading and Strength of Cladding Glass," *Journal of Structural Engineering*, Vol. 110, No. 4, April, 1984, pp. 715-729.
- Reed, D.A. and R.H. Scanlan, "Autoregressive Modeling of Longitudinal, Lateral and Vertical Turbulence Spectra," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 17, 1984, pp. 199-214.
- Reed, D.A. and R.H. Scanlan, "Time Series Analysis of Cooling Tower Wind Loading," *Journal of Structural Engineering*, Vol. 109, No. 2, Feb., 1983, pp. 538-554.

## **Fully-Refereed Conference Proceedings**

None

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

### *Invited Papers Published in Proceedings:*

Turkiyyah, George and D.A. Reed, "3D Discrete Vortex Methods and Application of Parallel Computing Techniques," *Proc. of the International Symposium on Bridge Aerodynamics*, Technical University of Denmark, Lyngby, Denmark, May 10-13, 1998.

Reed, D.A., "Glass Cladding Design for Tall Buildings," *Proc. of the NSF Indo-U.S. Workshop on Wind Disaster Mitigation*, Madras, India, Dec. 16-20, 1985.

Reed, D.A., "Design Considerations for Wind Loadings," *Proc. of the Symposium on Concepts and Methods in Structural Safety Studies*, ASCE Spring Convention, Denver, CO, May. 1985, pp. 146-161.

### *Papers Published in Proceedings (Selection Based Upon Abstract Review):*

Reed, D.A., J. Preuss, and J. Park, "Empirical Investigation of Utility Lifeline Restoration for Earthquake and Wind Hazards," *Proc. Of Hazards 2002*, Antalya, Turkey, Oct. 2-6, 2002, to appear.

Reed, D.A., J. Preuss and J. Park, "Distribution System Disruption and Recovery for Natural Hazards," *Proc. of Power Systems and Communications Infrastructures for the Future*, Beijing, PRC, Sept. 2002, to appear.

Reed, D.A. and Jane Preuss, "Assessment of the Influence of Regulatory Constraints upon Utility Performance," *Proc. of the CRIS DRM IIIT NSF Workshop: Mitigating the Vulnerability of Critical Infrastructures to Catastrophic Failures*, Alexandria, VA, Sept 10-11, 2001.

Olson, D.E. and D.A. Reed, "A Nonlinear Numerical Model for Sloped-Bottom Tuned Liquid Dampers," *Proc. of the PMC Probabilistic Mechanics Conference*, Univ. of Notre Dame, IN, July, 2000.

Park, Jaewook and D.A. Reed, "Analysis of Uniformly and Linearly Distributed Mass Dampers," *Proc. of the PMC Probabilistic Mechanics Conference*, Univ. of Notre Dame, IN, July, 2000.

Hardan, K., D.A.Reed, and C. Brown, "Gust Factor Analysis for Lake Conditions," *Proc. of the PMC Probabilistic Mechanics Conference*, Univ. of Notre Dame, IN, July, 2000.

Reed, D.A. and Carolyn Cook, "Multi-Hazard Analysis of Utility Lifeline Systems," *Proc. of the 5th US Conference on Lifeline Earthquake Engineering*, Seattle, WA, August, 1999.

Reed, D.A. and Carolyn Cook, "Multi-Hazard Analysis of Utility Lifelines," *Proc. of the 10th International Conference on Wind Engineering*, June, 1999, Copenhagen, Denmark.

Mabuchi, T., H. Sato, D.A. Reed, G. Turkiyyah and H. Yeh, "Development of Computational Models for Bridge Deck Motion," *Proc. of the 2<sup>nd</sup> US-Japan Workshop on Design for Wind and Wind Hazard Mitigation*, Tsukuba, Japan, May, 1999.

Gardarsson, S., H. Yeh and D.A. Reed "An Investigation of Sloped Bottom Liquid Dampers," *Proc. of the 2nd World Conference on Structural Control*, Kyoto, Japan, June, 1998, pp. 155-164.

Yu, Jinkyu and D.A. Reed, "An Empirically-Based Nonlinear Mechanical Model of the Tuned Liquid Damper," *Proc. of the 2nd European and African Conference on Wind Engineering*, Genova, Italy, June 22-26, 1997.

Reed, D.A., H. Yeh, J. Yu and S. Gardarsson, "Tuned Liquid Dampers Under Large Amplitude Excitation," *Proc. of the 2nd European and African Conference on Wind Engineering*, Genova, Italy, June 22-26, 1997.

Reed, D.A., H. Yeh, J. Yu and S. Gardarsson, "An Investigation of Tuned Liquid Dampers for Structural Control," *Proc. of the UJNR Workshop*, Tsukuba, Japan, May 1997.

Yeh, H., D.A. Reed, J. Yu and S. Gardarsson, "Performance of Tuned Liquid Dampers for Large Amplitude Excitation," *Proc. of the 2nd International Workshop on Structural Control*, Hong Kong, Dec., 1996.

Reed, D.A., H. Yeh, J. Yu and S. Gardarsson, "Experimental Investigation of Tuned Liquid Dampers," *Proc. of the ASCE International Conference on Natural Disaster Reduction*, Washington, DC, Dec., 1996.

Kalonji, G. and D.A. Reed, "Challenges to Sustaining Engineering Educational Reform: Engineering 'Core' Courses at the University of Washington," *Proc. of the IV Interamerican Conference on Engineering and Technology Education: Intertech '96*, Valencia, Venezuela, Sep, 22-25, 1996.

Turkiyyah, G., D.A. Reed, C. Viozat and C. Lin, "Parallel Performance on a 3-Dimensional Grid-free Vortex Method for Wind Engineering Simulations," *Proc. of the 2nd International Symposium on Computational Wind Engineering*, Colorado State University, Ft. Collins, CO, Aug., 1996.

- Reed, D.A., T. English, and K.C. Mehta, "An Expert System for Building Vulnerability Assessment in Windstorms," *Proc. of the NSF Workshop on Natural Hazard Mitigation*, Lake Tahoe, Nevada, April 27-28, 1995.
- Viozat, Cecile, D.A. Reed and G.M. Turkiyyah, "Parallel Implementations of Vortex Methods for Wind Engineering Simulation," *Proc. of the Robert Harris Scanlan 80th Birthday Symposium*, Dept. of Civil Engineering, Whiting School of Engineering, The Johns Hopkins University, Baltimore, MD, Oct. 28-29, 1994.
- Reed, D.A. and H. Yeh, "Structural Control Systems: Tuned Liquid Dampers," *Proc. of the NSF Structural Control Workshop*, Pasadena, CA, Aug., 1994.
- Turkiyyah, G.M., D.A. Reed and K.C. Long, "Random Vortex Models in Wind Engineering," *Proc. of the First Congress on Computing in Civil Engineering*, ASCE, Washington, DC, Jun. 20-22, 1994.
- Turkiyyah, G.M. and D.A. Reed, "Computational Models in Wind Engineering," *Proc. of the 7th U.S. National Conference on Wind Engineering*, UCLA, Jun. 27-30, 1993.
- Jones, N.P., D.A. Reed and J.E. Cermak, "Wind Hazards Reduction Program," *Proc. of the ASCE Structures Congress, Irvine, CA*, April, 1993.
- Reed, D.A., "An Object-Oriented Approach to Wind Safety Analysis," Session on Expert Systems II, *Proc. of the ASCE Seventh Conference on Computing in Civil Engineering and Symposium on Databases*, Washington, DC, May 6-8, 1991.
- Reed, D.A., "Safety Assessment of Existing Structures," Session on multicriterion decision-making with ordinal criteria and non-probabilistic analysis, *Proc. of the PSAM Conference*, Los Angeles, CA, Feb., 1991.
- Chen, W. and D.A. Reed, "Structural Safety Assessment," *Proc. of the Sixth U.S. National Conference on Wind Engineering*, Houston, TX, Mar. 8-10, 1989.
- Reed, D.A., "An Expert System for Glass Cladding Risk Assessment," *Proc. of the Structural Engineering Congress '87*, Orlando, FL, Aug., 1987.
- Reed, D.A. and J. Hinze, "A Study of Construction Safety in Washington State, USA," *Proc. of the IABSE Symposium*, Tokyo, Japan, Sep. 4-6, 1986, pp. 345-350.
- Reed, D.A., "Cladding Design for Tall Buildings," *Proc. of the 3rd ASCE Engineering Mechanics Specialty Conference*, UCLA, Los Angeles, CA, Apr., 1986.
- Reed, D.A., "Influence of Parameters Upon Reliability Calculations," *Proc. of the 5th U.S. National Conference on Wind Engineering*, Texas Tech University, Lubbock, TX, Nov. 6-8, 1985.

Reed, D.A., "The Use of Field Parameters in Wind Load Estimation," *Proc. of the Structural Engineering Congress '85*, Chicago, IL, Sep., 1985, p 155.

Reed, D.A. and E. Simiu, "Procedure for Estimating Load Capacity of Cladding Panels from Small Test Samples," *Proc. of the Structural Engineering Congress 85*, Chicago, IL, Sep., 1985, p. 175.

Reed, D.A., "Glass Cladding Design for Wind," *Proc. of the ICOSSAR 1985 4th International Conference on Structural Safety and Reliability*, Kobe, Japan, May, 1985.

Reed, D.A., "Damage Function Results for Glass Cladding," *Proc. of the Third Council Meeting of the Council on Tall Building and Urban Habitat*, New Orleans, LA, Oct. 11-12, 1984.

Simiu, E. and D.A. Reed, "Ring-on-Ring Tests and the Modeling of Cladding Glass Strength by the Weibull Distribution," *Proc. of the Weibull Symposium on Probabilistic Methods in the Mechanics of Solids and Structures*, Stockholm, Sweden, Jun 19-21, 1984.

Reed, D.A. and C.Y. Yancey, "Statistical Analysis of Glass Strength and Behavior," *Proc. of the ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Jan., 1984, pp. 248-251.

Ellingwood, B, D.A. Reed and M.E. Batts, "Stochastic Models of Earthquakes for Probability-Based Design of Nuclear Structures," *Proc. of the International Conference on Structural Mechanics in Reactor Technology*, Chicago, IL, Aug., 1983.

Simiu, E. and D.A. Reed, "Probabilistic Design of Cladding Glass Subjected to Wind Loads," *Proc. of the 4th International Conference on Applications of Statistics and Probability in Soil and Structural Engineering*, Florence, Italy, Jun. 13-17, 1983.

Reed, D.A. and E. Simiu, "Glass Cladding Design for Wind," *Proc. of the ASCE Engineering Mechanics Division Specialty Conference*, Purdue University, May 23-25, 1983, pp. 729-734.

Reed, D.A. and R.H. Scanlan, "Cooling Tower Wind Loading," *Proc. of the 4th U.S. National Conference on Wind Engineering Research*, Seattle, WA, Jul. 26-29, 1981, Vol. 1.

Reed, D.A. and R.H. Scanlan, "ARIMA Representation of Turbulence Spectra and Longitudinal Integral Scales," *Proc. of the U.S.-Japan Cooperative Program in Natural Resources*, Tokyo, Japan, May, 1981.

## **Books**

### *Chapters in Books:*

“Cooling Tower Wind Loading,” *Wind Loadings and Wind-Induced Structural Response*, ASCE Publications, New York, NY, Nov., 1987.

“Design of Cladding for Earthquakes,” (with Marcy Li Wang), Chapter 4 of *Cladding: A Monograph on Tall Building Systems and Concepts*, Council on Tall Buildings and Urban Habitat Committee 12A, McGraw-Hill, New York, NY, 1992, pp. 71-87.

### **Editing and Other Scholarly Publications**

#### *Editor:*

Co-editor with Prof. George Turkiyyah, of a special section of *Engineering Structures* dedicated to Computational Wind Engineering, Vol. 18, No. 11, Nov., 1996.

Editor, *Proceedings of the Symposium on Engineering Education in the 21st Century*, University of Washington, Seattle, WA, May, 1996.

#### *Discussions in Journals:*

Reed, D.A., Discussion of ‘From Uncertainty to Approximate Reasoning,’ by Dong and Wong, *Civil Engineering Systems*, Dec., 1987.

Reed, D.A., Closure on ‘Uncertainty in Wind Engineering Design,’ *Journal of Structural Engineering*, 1988.

#### *Discussion Published in Proceedings:*

Summary of Discussion at the NSF Workshop on Civil Engineering Applications of Fuzzy Sets: *Proceedings of the NSF Workshop on Civil Engineering Applications of Fuzzy Sets*, with D. Johnston, 1985.

#### *Other Publications:*

Reed, D.A., “Structural Control Research: Tuned Liquid Dampers,” *Research Abstracts and Project Summaries: Industry/Innovation Workshop*, Civil Engineering Research Foundation, ASCE, Oct. 19-20, 1997.

Reed, D.A., “Structural Control,” *Proc. of the UJNR Workshop*, Task Committee E on Wind Effects, Honolulu, HI, Oct. 7-9, 1997.

Commentary on the Wind Loading Provisions of the 1991 Uniform Building Code, International Conference of Building Officials-Structural Engineers Association of Washington Committee on Wind Effects [Member of the Committee], 1993.

“Recommended Acceleration Limits for Tall Buildings in the Seattle Area,” *Wind Engineering Seminar Overview and Perspectives: Using the 1988 Uniform Building Code and ANSI A58.1 Standard*, International Conference of Building Officials Committee on Wind Effects, Seattle Chapter Structural Engineers Association of Washington, University of Washington Seminar, Seattle, WA, Mar. 18, 1989, pp. 50-57.

Siller, T., Fenves, S.J., Bielak, J. and D.A. Reed, *A Prototype Knowledge-Based System for Seismic Damage Assessment*, NCEER Report 86-4022, Carnegie-Mellon University Research Report, Dept. of Civil Engineering, 1988.

Simiu, E., D.A. Reed, et al., *Ring-on-Ring Tests and Load Capacity of Cladding Glass*, NBS Building Science Series 162, National Bureau of Standards, Department of Commerce, May, 1983.

Reed, D.A. and E. Simiu, *Wind Loading and Strength of Cladding Glass*, NBS Building Science Series 154, National Bureau of Standards, Department of Commerce, May, 1983.

Reed, D.A., *Time Series Analysis of Wind Loadings on Hyperbolic Cooling Towers*, Ph.D. Thesis, Department of Civil Engineering, Princeton University, Princeton, NJ, June 1980.

### **Sponsored Research**

#### Pending:

2001-2005 Wind Engineering Consortium, Computational Fluid Dynamics Models for Wind Engineering, Joint with Prof. Turkiyyah, VPI is the host institution for a \$5 million proposal that is under consideration by Congress [spearheaded by Congressman Boucher of Virginia] similar to NEHRP for the earthquake community.

#### Funded:

2001-2003 Performance of Utility Lifelines in Urban Centers for Earthquake Hazards, NSF, \$247,195. Joint with Jane Preuss. Starting date: June 2001.

2002 REU Supplement \$16,000.

1997-98 Investigation of the Pacific Northwest Storm 1996, NSF Small Grants for Exploratory Research, \$50,000.

1996-98 International Travel Grant to Support U.S. Involvement in the 2nd European and African Regional Conference on Wind Engineering, NSF, \$27,780.

1996-97 Co-PI for the University of Washington, College of Engineering in the NSF Engineering Coalition of Schools for Excellence in Education and Leadership (ECSEL), Years 6-7; annual UW budget approximately \$500,000.

- 1993-97 Structural Control Research: Tuned Liquid Dampers, NSF, Oct. 1993-Jan. 1996, \$260,000 (with Yeh).
- 1993-95 Microzonation for Wind Engineering, Washington State Department of Transportation, \$78,000.
- 1993-94 Fundamentals of Wind Engineering, NSF Undergraduate Instrumentation and Laboratory Improvement Program, NSF, \$5,787 (Equipment only; with Prof. Timothy D. Larson).
- 1993-96 Mitigation of Hurricane Damage to Constructed Facilities, NSF, joint with Texas Tech University, \$103,993 (for the University of Washington).
- 1991-93 An Emergency Response Plan for WSDOT Bridge Management, Washington State Department of Transportation, \$75,000.
- 1987-90 Expert Systems for Wind-Induced Damage Assessment, NSF; Sept. 1, 1987-89, \$176,000.
- 1987-88 Expert Systems for Wind Engineering, NSF Visiting Professorship at Carnegie-Mellon University, \$176,000.
- 1984-86 Local Pressure Fluctuations, NSF Research Initiation Grant, \$48,500.
- 1984 Development of Design Criteria for Glass Cladding, Graduate School Research Fund, \$6,142.

### **Project Reports**

Kappayil, Shila and D.A. Reed, *Microzonation for Temperature and Wind for the State of Washington*, WSDOT Research Report, WA-RD 402-1, Sept. 1996.

Reed, D.A. and J. Wang, *An Emergency Response Plan for WSDOT Bridge Management*, WSDOT Research Report, WA-RD 289.1, Dec. 1993.

Mannering, F.L., Louie, M.L., and D.A. Reed, *Emergency Response Guide for Highway Maintenance Managers*, WSDOT Research Report, Nov. 1992.

### **Other Research-Related Activities**

Patent Application for Improved Tuned Liquid Dampers, 1998.

### **Invited Lectures and Seminars**

Northwest Workshop on Academic Careers for Women in Science and Engineering, University of Washington, March 31, 1996.

Seminar on Wind Engineering (Short Course), University of Washington, Nov. 7, 1992.

Cooperative Wind Engineering Research Program at Texas Tech University, Lubbock, Texas, January, 1992.

Engineering Research Institute, Reykjavik, Iceland, September, 1991.

Seminar on Wind Engineering (Short Course), University of Washington, March 18, 1989.

### **Presentations Given at Conferences**

Empirical Investigation of Utility Lifeline Restoration for Earthquake and Wind Hazards, *Hazards 2002*, Antalya, Turkey, Oct. 2-6, 2002.

Distribution System Disruption and Recovery for Natural Hazards, *Power Systems and Communications Infrastructures for the Future*, Beijing, PRC, Sept. 2002.

Assessment of the Influence of Regulatory Constraints upon Utility Performance, *The CRIS DRM IIIT NSF Workshop on Mitigating the Vulnerability of Critical Infrastructures to Catastrophic Failures*, Alexandria, VA, Sept 10-11, 2001.

Performance of Utility Lifelines, *Americas Conference on Wind Engineering*, Clemson University, June, 2001.

A Nonlinear Numerical Model for Sloped-Bottom Tuned Liquid Dampers, *PMC Probabilistic Mechanics Conference*, Univ. of Notre Dame, IN, July, 2000.

Analysis of Uniformly and Linearly Distributed Mass Dampers, *PMC Probabilistic Mechanics Conference*, Univ. of Notre Dame, IN, July, 2000.

Multi-Hazard Analysis of Utility Lifeline Systems, *5th US Conference on Lifeline Earthquake Engineering*, Seattle, WA, August, 1999.

Multi-Hazard Analysis of Utility Lifelines, *10th International Conference on Wind Engineering*, June, 1999, Copenhagen, Denmark.

Development of Computational Models for Bridge Deck Motion, *UJNR Workshop*, Task Committee E on Wind Effects, Tsukuba, Japan, May 24-25, 1999.

Lifeline Consideration: Earthquake Risk to the Northwest, *The Northwest Energy Utility Earthquake Research Workshop*, August 25, 1998, University of Washington.

An Investigation of Sloped Bottom Liquid Dampers, *2nd World Conference on Structural Control*, Kyoto, Japan, June, 1998; Harry Yeh, presenter.

An Empirically-Based Nonlinear Mechanical Model of the Tuned Liquid Damper, *2nd European and African Conference on Wind Engineering*, Genova, Italy, June 22-26, 1997.

Tuned Liquid Dampers Under Large Amplitude Excitation, *2nd European and African Conference on Wind Engineering*, Genova, Italy, June 22-26, 1997.

An Investigation of Tuned Liquid Dampers for Structural Control, *UJNR Workshop*, Tsukuba, Japan, May 1997.

Performance of Tuned Liquid Dampers for Large Amplitude Excitation, *2nd International Workshop on Structural Control*, Hong Kong, Dec., 1996.

Experimental Investigation of Tuned Liquid Dampers," *Proc. of the ASCE International Conference on Natural Disaster Reduction*, Dec., 1996: Jinkyu Yu, presenter.

Challenges to Sustaining Engineering Educational Reform: Engineering 'Core' Courses at the University of Washington, *IV Interamerican Conference on Engineering and Technology Education: Intertech '96*, Valencia, Venezuela, Sep, 22-25, 1996: co-presented with G. Kalonji.

Parallel Performance on a 3-Dimensional Grid-free Vortex Method for Wind Engineering Simulations, *2nd International Symposium on Computational Wind Engineering*, Colorado State University, Ft. Collins, CO, Aug., 1996: G. Turkiyyah, presenter.

An Expert System for Building Vulnerability Assessment in Windstorms, *NSF Workshop on Natural Hazard Mitigation*, Lake Tahoe, Nevada, April 27-28, 1995.

Parallel Implementations of Vortex Methods for Wind Engineering Simulation, *Robert Harris Scanlan 80th Birthday Symposium*, Dept. of Civil Engineering, Whiting School of Engineering, The Johns Hopkins University, Baltimore, MD, Oct. 28-29, 1994.

Structural Control Systems: Tuned Liquid Dampers, *NSF Structural Control Workshop*, Pasadena, CA, Aug., 1994: Harry Yeh, presenter.

Random Vortex Models in Wind Engineering, *First Congress on Computing in Civil Engineering*, ASCE, Washington, DC, Jun. 20-22, 1994: G. Turkiyyah, presenter.

Computational Models in Wind Engineering, *7th U.S. National Conference on Wind Engineering*, UCLA, Jun. 27-30, 1993.

Wind Hazards Reduction Program, *ASCE Structures Congress*, Irvine, CA, April, 1993: Nick Jones, presenter.

An Object-Oriented Approach to Wind Safety Analysis, Session on Expert Systems II, *ASCE Seventh Conference on Computing in Civil Engineering and Symposium on Databases*, Washington, DC, May 6-8, 1991.

Safety Assessment of Existing Structures, Session on multicriterion decision-making with ordinal criteria and non-probabilistic analysis, *PSAM Conference*, Los Angeles, CA, Feb., 1991.

Structural Safety Assessment, *Sixth U.S. National Conference on Wind Engineering*, Houston, TX, Mar. 8-10, 1989.

An Expert System for Glass Cladding Risk Assessment, *Structural Engineering Congress '87*, Orlando, FL, Aug., 1987.

Cladding Design for Tall Buildings, *3rd ASCE Engineering Mechanics Specialty Conference*, UCLA, Los Angeles, CA, Apr., 1986.

Influence of Parameters Upon Reliability Calculations, *5th U.S. National Conference on Wind Engineering*, Texas Tech University, Lubbock, TX, Nov. 6-8, 1985.

The Use of Field Parameters in Wind Load Estimation, *Structural Engineering Congress '85*, Chicago, IL, Sep., 1985.

Glass Cladding Design for Wind, *ICOSSAR 1985 4th International Conference on Structural Safety and Reliability*, Kobe, Japan, May, 1985.

Damage Function Results for Glass Cladding, *Third Council Meeting of the Council on Tall Building and Urban Habitat*, New Orleans, LA, Oct. 11-12, 1984.

Ring-on-Ring Tests and the Modeling of Cladding Glass Strength by the Weibull Distribution, *Weibull Symposium on Probabilistic Methods in the Mechanics of Solids and Structures*, Stockholm, Sweden, Jun 19-21, 1984; Emil Simiu, presenter.

Statistical Analysis of Glass Strength and Behavior, *ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Jan., 1984, pp. 248-251.

Stochastic Models of Earthquakes for Probability-Based Design of Nuclear Structures, *International Conference on Structural Mechanics in Reactor Technology*, Chicago, IL, Aug., 1983; Bruce Ellingwood, presenter.

Probabilistic Design of Cladding Glass Subjected to Wind Loads, *4th International Conference on Applications of Statistics and Probability in Soil and Structural Engineering*, Florence, Italy, Jun. 13-17, 1983; Emil Simiu, presenter.

Glass Cladding Design for Wind, *ASCE Engineering Mechanics Division Specialty Conference*, Purdue University, May 23-25, 1983.

Cooling Tower Wind Loading, *4th U.S. National Conference on Wind Engineering Research*, Seattle, WA, Jul. 26-29, 1981.

ARIMA Representation of Turbulence Spectra and Longitudinal Integral Scales,” *Proc. of the U.S.-Japan Cooperative Program in Natural Resources*, Tokyo, Japan, May, 1981: H.S. Lew, presenter

### **Professional Licenses**

None.

### **Professional Society Memberships**

Committee on Hazards Mitigation Engineering (CHME), of the Board on Natural Disasters, National Research Council, 1992-1995 (membership by invitation only).

American Society of Civil Engineers, Member

- Technical Council on Lifeline Earthquake Engineering, Member, 2000.  
Structural Division, Technical Committee on Wind Effects;  
Member, 1981-1984; August 1988-94.  
National Control Group Member, May 1990-94.  
Chair and Charter Member, Subcommittee on Computer-Aided Wind Engineering, 1989-94.  
Member, Task Committee on Wind-Induced Motion Perception Criteria for Tall Buildings, 1990-94.  
Member, Subcommittee on Structural Damping Systems, 1992-94.
- Structural Division, Technical Committee on Fracture and Fatigue Reliability;  
Member, August 1985-1988.  
Vice-Chair and National Control Group Member, August 1987-1988.
- Engineering Mechanics Division, Technical Committee on Probabilistic Methods;  
Member, 1983-1988.

American Association for Wind Engineering (formerly WERC); Member, 1988-present.

International Conference of Building Officials-Structural Engineers Association of Washington  
Committee on Wind Effects, Member, 1989-1994.

Japan Association for Wind Engineering, Member, 1997-present.

American Association for Artificial Intelligence, Member, 1988-92.

American Association for Engineering Education, Member, 1994-99.

**Professional Society and Other Service**

- 1991            Session Chair, PSAM Conference, Los Angeles, CA
- 1993            Session Chair, ASCE Structures Congress
- 1994            NSF Grantees Structural Control Workshop  
ABET Annual Meeting
- 1995            Trilateral Workshop on Natural Hazard Risk Assessment, NAFTA Invitational Meeting, Ottawa, Canada  
NSF-US Dept. of Education Joining Forces Invitational Conference on Systemic Change in Science and Engineering Education  
Women in Engineering Keynote Panel
- 1996            Dean's Roundtable, Intertech Meeting, Venezuela  
International Association for Structural Control, Hong Kong, Codes and Standards
- 1997            UJNR Panel Member, Tsukuba, Japan (by invitation only)  
NSF Workshop on Large-Scale Wind Tunnel Modeling (by invitation only)  
NSF Structural Control Workshop Session Chair, Reno, Nevada  
UJNR Task Committee E Workshop on Wind Effects, Honolulu, Hawaii (by invitation only)  
National Wind Engineering Hazards Program: AAWE Workshop, Johns Hopkins (by invitation only)  
Session Chair, 2<sup>nd</sup> European and African Conference on Wind Engineering
- 1998            Symposium on Long-Span Bridges, Kobe, Japan  
  
Session Chair, Symposium on Bridge Aerodynamics, Copenhagen, Denmark.  
  
EERI Session Chair on Structural Control for Earthquake Engineering, Seattle.
- 1999            Session Chair, 10th International Conference on Wind Engineering, Copenhagen, Denmark.
- 2000-01        Member of Scientific & Organizing Committees for the following Conferences:

- ASCE Probabilistic Mechanics (PMC-2000), July, 2000, University of Notre Dame
- Americas Conference on Wind Engineering, June, 2001, Clemson University
- Structures Congress 2003, to be held in Seattle

2001 Participant in the First Annual Conference on Infrastructure Priorities: A National Infrastructure Research Agenda: Oct. 24-26,2001, Washington, DC.

### Reviews Made

NSF	10-15
(annual)	
<i>Engineering Mechanics</i>	2
(annual)	
<i>Engineering Structures</i>	2
(annual)	
<i>Journal of Wind Engineering and Industrial Aerodynamics</i>	3
(annual)	
<i>Journal of Structural Engineering</i>	1

### Awards and Honors

U.S.-Japan Cooperative Program in Natural Resources Panel Member, 1996-2001  
(membership by invitation only).

NSF Visiting Professorship at Carnegie Mellon University, 1987.

National Research Council - National Bureau of Standards Postdoctoral Research Associateship, 1980-1982.

### Teaching

Date	Course Title and Number	Number of Students	Average of lines 1-4
Wi88	CESM481 (CIVE 452) Reinforced Concrete Design	26	-
Sp88	CESM516 Design for Wind	8	4.00
Au88	CESM474 (CIVE441) Advanced Structures	18	-
Wi89	CIVE380 Elementary Structures II	73	-
	CESM474 (CIVE441) Advanced Structures	12	3.30
Sp89	ENGR230 Dynamics	45	-
	CESM516 Design for Wind	13	3.30
Su89	ENGR210 Statics	30	-
Au89	CESM474 (CIVE441)	24	3.29
Wi90	CESM481 (CIVE452) Reinforced Concrete Design	20	-
Sp90	CESM599 Topics in Structural Engineering (joint	15	-

	with Stanton)			
	CESM516 Design for Wind		9	3.10
Wi91	CESM481 (CIVE452) Reinforced Concrete Design		20	-
	CIVE 381 Introduction to Design		50	-
Sp91	CESM431 (CIVE431) Reinforced Concrete Design		9	3.00
	CESM516 Design for Wind		7	-
Au91	CESM503 Materials		17	-
	CESM481 (CIVE452) Reinforced Concrete Design		24	3.43
Wi92	CESM431 (CIVE431) Seismology and Earthquake Engineering		17	-
	CESM516 Design for Wind		10	-
Wi93	CESM520 joint with Prof. Banerjee		30	-
	CESM/CIVE43 Seismology and Earthquake Engineering		25	3.57
	CESM503 Materials		3	-
Sp93	CIVE381 Introduction to Design	77		3.55
	CIVE499/599 Fundamentals of Wind Engineering: new course joint with Prof. Larson		15	-
Au93	CESM481 (CIVE452) Reinforced Concrete Design		45	-
W94-Sp94	Sabbatical			
Su94	ENGR210 Statics		47	3.77
W95	CIVE381 Introduction to Design	80		
Sp95	CESM516 Design for Wind		9	3.89
W96	CIVE431 Seismology and Earthquake Engineering		45	-
Sp96	CESM516 Design for Wind		3	3.85
	ENGR220 Mechanics for Materials		100	-
Sp97	CESM516 Design for Wind		5	3.38
Au97	CESM523 Reliability		4	3.00
W98	CIVE431 Seismology and Earthquake Engineering		21	3.17
	ENGR220 Mechanics of Materials		90	3.10
	CESM520 Coordinator		28	-
Sp98	CIVE379 Elementary Structures I		27	2.7
Au98	CESM523 Reliability		7	3.08
	ENGR220 Mechanics of Materials		95	3.18
Wi99	CIVE431 Seismology and Earthquake Engineering		13	3.30
Sp99	CESM516 Design for Wind		6	3.42
Au99	CESM523 Reliability		3	3.33
Wi00	CIVE431 Seismology and Earthquake Engineering		17	1.93
Sp00	CESM516 Design for Wind		6	3.58
Su00	CEE599 Fundamentals of Wind Engineering		2	-
Au00	CESM523 Reliability		8	4.19
Wi01	CEE431 Seismology and Earthquake Engineering		19	4.06
Sp01	CEE517 Wind Engineering		5	3.77
W02	CEE502 Structural Dynamics		16	2.38
Sp02	CEE517 Wind Engineering		10	
Sp02	CEE431 Seismology & Earthquake Engineering	13		

**Short Courses, Workshops and Other Educational Programs**

CESM499/CESM599

Genevieve Pla, Stephen Beissel, Stephen Cooper, Soo Kuan Teo, Julie Bussing, Eric Beckman, Nathalie Philip, Mike Visser

May 14-15, 1998      Advisory Committee Member, PEER Workshop on Defining the Links Between Planning, Policy, Economics and Earthquake Engineering Research, Berkeley, CA

April 21, 1998      Panel Member on Faculty Governance, The Graduate School, UW

October 1999      Represented Department at the ECSEL Workshop *In Their Own Words*

### **Chaired Doctoral Degrees**

1997      Jin-Kyu Yu; Skilling, Ward, Magnusson, Barkshire  
2001      Jaewook Park (degree in progress)

### **Chaired Masters Degrees**

1983    Tom Bostrom  
1984    Antoun Ayoub  
1985    Frode Engelsen  
1986    Tzong-Shing Lin  
1987    Dean Tracy  
1988    Dan Booth  
1989    Howard Burton  
1989    Jonas Snaebjornsson  
1989    Willy Chen  
1989    Bjorn Christensen  
1990    Friedrich Naeher  
1992    Matthew Gunawan  
1993    Harry Kye  
1995    Cecile Viozat  
1995    Shila Kappayil  
1997    Steve Barham  
1997    Jaewook Park  
1999    Carolyn Cook (Jewett)  
1999    Doug Olsen

### **Other Student Supervision**

PhD Committees

Carlos Diaz, Derrick Booth, Sigardar Gardarsson, Sherry Yin, Michael Rucki, Duane Castenada, Thomas Boothby

#### Master's Committees

Nathan Wheldon, Kris Long, Joe Galusha, Paul Barr, Andrew Ewing, Cyra Cain, Dave Slater, Jiang Yang, Lisa Renahan, Sigardar Gardarsson, Eric Thomas, Timothy Rogers, Eysteinn Einarsson, Kare Hjorteset, Brian Trapp, Samir Chudgar, Laurel Harrington, Pascale Favre, Dushyantha Jayawardena, Troy Feller, Toan Nguyen

#### **Department of Civil and Environmental Engineering Service**

1997-present Member, CEE Promotion and Tenure Review Committee.  
1998-2000 Member, CEE Search Committee  
1992-93 Member, Undergraduate Education and Admissions.  
1992 Chair, Search Committee for The Osberg Professorship.  
1991 Chair, Curriculum Review Committee for Structures Group.  
1991-present Chair, Mentor Committee for Assistant Professor George Turkiyyah.  
1990-91 Chair, Structures Faculty Search Committee.  
1990-91 Member, Department Affairs Committee.  
1988-90 Graduate Adviser, Structural and Geotechnical Engineering and Mechanics Program.  
1988 Chair, Committee to Review the Qualifying Examination, Autumn Quarter.  
1988 Chair, Committee for Executive Committee Search, Summer Quarter.  
1985-86 Coordinator of the SGEM Graduate Qualifying Exam.  
1988-89  
1994  
1985-91 Member, Scholarship Committee.

#### **College of Engineering Service**

1999,2000 Member, Search Committee, Dept. of Industrial Engineering  
1997-99 Faculty Governance Team.  
1994-97 Associate Dean for Academic Affairs, College of Engineering.  
1995-96 Member, Endowed Professorships Search Committee.  
1990-present Member, Board of Directors, Women in Engineering Center.  
1990-94 Member, Scholarship Committee, Women in Engineering Center.  
1991-92 Member, Search Committee for Chair of Civil Engineering.  
1990-92 Member, Large Scale Complex Systems Committee.  
1987-89 Member, Educational Policy Committee.  
1985 Member, Committee to Review the Performance of the Chair of Civil Engineering.

#### **University Service**

1999,2000 Member, Graduate Mentor Award Selection Committee

- 1998-00 Member, Saturday Seminar Selection Committee.
- 1996-97 Member, Summer Quarter Committee.
- 1995-97 Member, Summer Quarter Advisory Board.
- 1996 Member, Committee on Graduate and Professional School Tuition Policy.
- 1995-96 Member, Search Committee for the Dean of The Graduate School.
- 1995-96 Member, President's Task Force for International Studies.
- 1991-94 Member, Graduate School Research Fund Review Committee for Science and Engineering (internal research funding provided by the University of Washington)
- 1991-94 Member, Academic Advisory Committee on Facilities.
- 1988-90 Member, Faculty Senate.

### **National Service**

- 1990 Reviewer for the NSF Graduate Fellowships, Engineering Panel
- 1992-93
- 1996
- 1990 Reviewer for RIA and REG Proposals, NSF
- Reviewer for Awards to Improve Undergraduate Science and Engineering Lab Instrumentation, NSF
- 1992 Panel Review for SBIR in Engineering, NSF
- 1999 Reviewer for the National Research Council Report on Large-Scale Wind Testing Facilities
- 2001 Panel Review for CMS, NSF and IGERT, NSF

### **All Other Service**

- 1999 Provided background material and assistance for local high school students regarding the Tacoma Narrows Bridge failure and present-day design of suspension bridges
- 1998 Participated in the COE Open House Activities
- 2000

### **Consulting Experience**

Tuned Liquid Dampers for the Nanjing TV Tower, Nanjing, PRC, Subcontract to Prof. Ahsan Kareem, Notre Dame, January, 1995-1998.

GRE Specialty Examination for Educational Testing Services, Princeton, NJ, Feb. 25-27, 1993.