General Biographical Information

STEVEN L. KRAMER
Professor
University of Washington
Department of Civil Engineering
Office: 206/685-2642
Home: 206/836-5252
Fax: 206/685-3836
e-mail: kramer@u.washington.edu

Academic background

University of California, Berkeley, Civil Engineering, B.S., 1977
University of California, Berkeley, Geotechnical Engineering, M. Eng., 1979
University of California, Berkeley, Geotechnical Engineering, Ph.D., 1985

Professional history

Professor, University of Washington, Department of Civil Engineering, 1997-present.
Faculty, Centre for Post-Graduate Training and Research in Earthquake Engineering and Engineering Seismology (ROSE School) University of Pavia, Italy, 2007-present.
Associate Professor, University of Washington, Department of Civil Engineering, 1990-1997.
Assistant Professor, University of Washington, Department of Civil Engineering, 1984-1990.
Research Assistant, Univ. of California, Berkeley. Static liquefaction of sands, 1982-1984.
Research Assistant, Univ. of California, Berkeley. Cyclic triaxial testing of sea-floor sediments, 1978-1979.
Teaching Assistant, Univ. of California, Berkeley, 1978.
Research Assistant, Univ. of California, Berkeley. Numerical modeling of ground surface subsidence, 1978.
Research Assistant, Univ. of California, Berkeley. Cyclic triaxial testing of dam embankment soils, 1977-1978.
Project Engineer, Cooper & Clark, Redwood City, California, 1979-1982.
Field Engineer, Harding-Lawson Associates, Novato, California, 1979.
Engineering Aide, Sargent & Lundy Engineers, Chicago, Illinois, 1977.

Refereed Journal Publications

Kramer, S.L. and Seed, H.B. (1988) "Initiation of Soil Liquefaction Under Static Loading Conditions", *Journal of Geotechnical Engineering*, ASCE, Vol. 114, No. 4, pp.412-430.

Kramer, S.L. and Heavey, Edward J. (1988) "Lateral Load Analysis of Nonlinear Piles", *Journal of Geotechnical Engineering*, ASCE, Vol. 114, No. 9, pp. 1045-1049.

Kramer, S.L. (1988) "Liquefaction Flow Slides in Coastal Soil Deposits", *Engineering Geology*, Vol. 26, No. 4, pp. 17-31.

Kramer, S.L. and Heavey, Edward J. (1989) "Analysis of Laterally Loaded Piles with Nonlinear Bending Behavior", *Transportation Research Record 1169*, Transportation Research Board, National Research Council, pp. 70-74.

Kramer, S.L. and Sivaneswaran, N. (1989) "A Non-Destructive, Specimen-Specific Method for Measurement of Membrane Penetration", *Geotechnical Testing Journal*, ASTM, Vol. 12, No. 1, pp. 50-59.

Kramer, S.L. (1989) "Uncertainty in Steady State Liquefaction Evaluation Procedures", *Journal of Geotechnical Engineering*, ASCE, Vol. 115, No. 10, pp. 1402-1419.

Kramer, S.L. and Sivaneswaran, N. (1989) "A Stress Path Dependent Correction for Membrane Penetration", *Journal of Geotechnical Engineering*, ASCE, Vol. 115, No. 12, pp. 1787-1804.

Kramer, S.L., Sivaneswaran, N. and Davis, R.O. (1990) "Analysis of Membrane Penetration in the Triaxial Test", *Journal of Engineering Mechanics*, ASCE, Vol. 116, No. 4, pp. 773-789.

Kramer, S.L., Satari, R., and Kilian, A.P. (1991) "Evaluation of In-Situ Strength and Stiffness of a Peat Deposit from Laterally Loaded Pile Test Results", *Transportation Research Record 1278*, Transportation Research Board, Washington, D.C., pp. 103-109.

Sivaneswaran, N., Kramer, S.L., and Mahoney, J.P. (1992) "Advanced Backcalculation Using a Nonlinear Least Squares Optimization Technique", *Transportation Research Record 1293*, Transportation Research Board, Washington, D.C., pp. 93-102.

Crouse, C.B., Kramer, S.L., Mitchell, R., and Hushmand, B., (1993). "Dynamic Tests of a Pipe Pile in Saturated Peat", *Journal of Geotechnical Engineering*, ASCE, Vol. 119, No. 10, pp. 1550-1567.

Kramer, S.L., Von Laun, F.-Y., and Sivaneswaran, N. (1992). "Strain-Controlled, Variable Frequency Cyclic Loading System for Soft Soils", *Geotechnical Testing Journal*, ASTM, Vol. 15, No. 3, pp. 264-270.

Kramer, S.L. (1992). "Use of Air Bag System for Instrumentation of Lateral Load Tests on Existing Pipe Piles", *Geotechnical Testing Journal*, ASTM, Vol. 15, No. 4, pp. 399-403.

Kramer, S.L., Craig, M.S., and Punyamurthula, S. (1993). "Estimation of Earthquake-Induced Pile Bending in a Thick Peat Deposit", *Transportation Research Record 1411*, Transportation Research Board, pp. 18-27.

Kramer, S.L. and Smith, M.W. (1996). "A Modified Newmark Model for Seismic Displacements of Landfills and Other Compliant Slopes", *Journal of Geotechnical Engineering*, ASCE, Vol. 123, No. 7, pp. 635-644.

Kramer, S.L. (2000). "Dynamic Response of Mercer Slough Peat", *Journal of Geotechnical Engineering*, ASCE, Vol. 126, No. 6, pp. 504-510.

Kim, M-Y, O'Neill, M.W., and Kramer, S.L. (2000). "Performance of Drilled Shafts with Isolation Tubes in an Expansive Soil Environment," *Geotechnical Testing Journal*, ASTM, Vol. 23, No. 3, pp. 345-357.

Jones, A.L., Arduino, P., Kramer, S.L., Eberhard, M.O. (2002). "Uncertainty analysis for a seismic warning system," *Transportation Research Record No. 3774*, Soils, Geology, and Foundations, Transportation Research Board, National Research Council, Washington, D.C.

Kramer, S.L. and Lindwall, N.W. (2002). "Dimensionality and Directionality Effects of Newmark Stability Analysis," ASCE *Journal of Geotechnical and Geoenvironmental Engineering*., Vol. 130, No. 3, pp. 303-315.

Paulsen, S.B. and Kramer, S.L. (2004). "A predictive model for seismic displacements of reinforced slopes," *Geosynthetics International*, Vol. 11, No. 6, pp. 407-428.

Kramer, S.L. and Paulsen, S.B. (2004). "Seismic performance evaluation of reinforced slopes," *Geosynthetics International*, Vol. 11, No. 6, pp. 429-438.

Kramer, S.L. and Mitchell, R.A. (2006). "An Efficient and Sufficient Scalar Intensity Measure for Soil Liquefaction," *Earthquake Spectra*, Vol. 22, No. 2, pp. 1-26.

Kramer, S.L. and Mayfield, R.T. (2007). "The return period of liquefaction," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 133, No. 7, pp. 1-12.

Kramer, S.L. and Baska, D.A. (2009). "Estimation of permanent displacement due to lateral spreading," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, accepted pending revisions.

Mayfield, R.T., Kramer, S.L., and Huang, Y.-M. (2010). "Simplified approximation procedure for performance-based evaluation of liquefaction potential," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 136, No. 1, pp. 140-150.

Akin, M.K., Kramer, S.L., and Topal, T. (2011). "Empirical Correlations of Shear-Wave Velocity and Penetration Resistance for Different Soils in an Earthquake-Prone Area," *Engineering Geology*, Vol. 119, No. 1, pp. 1-17.

Anderson, D.G., Shin, S., and Kramer, S.L. (2011). "Observations from Nonlinear, Effective-Stress Ground Motion Response Analyses following the AASHTO Guide Specifications for LRFD Seismic Bridge Design", *Transportation Research Record*, Vol. 2251, pp. 144-154.

Akin, M.K., Topal, T., and Kramer, S.L. (2012). "Seismic Microzonation of Erbaa, Tokat Province Based on AHP," *Environmental and Engineering Geoscience*, Vol. 18, No. 3, 14 pp.

Stuedlein, A.W., Kramer, S.L., Arduino, P., and Holtz, R.D. (2012). "Geotechnical Characterization and Random Field Modeling of Desiccated Clay," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 138, No. 11, pp. 1301-1313.

Stuedlein, A.W., Kramer, S.L., Arduino, P., and Holtz, R.D. (2012). "Reliability of Spread Footing Performance in Desiccated Clay," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 138, No. 11, pp. 1314-1325.

Akin, M.K., Topal, T., and Kramer, S.L. (2013). "A newly developed seismic microzonation model of Erbaa (Tokat-Turkey) located on seismically active eastern segment of the North Anatolian Fault Zone (NAFZ)," *Natural Hazards*, Vol. 65, No. 3, pp. 1411-1442.

Franke, K.W. and Kramer, S.L. (2014). "A procedure for the empirical evaluation of lateral spread displacement hazard curves," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 140, No.1, pp. 110-120.

Kramer, S.L. (2013). "Performance-based design methodologies," *Bulletin of Earthquake Engineering*, Vol. 12, pp. 1049-1070.

Kuhn, M.R., Renken, H.D., Mixsell, A.D., and Kramer, S.L. (2014). "Investigation of cyclic liquefaction with discrete element simulations," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, in revision.

Fully–Refereed Conference Proceedings

Kramer, S.L., Thompson, B., Critchfield, J., and Winter, D. (1993). "Field Observations of Insitu Tieback Geometry", *Proceedings*, International Conference on Soil Mechanics and Foundation Engineering, New Delhi.

Baska, D. A., Kramer, S.L., and Silva, W. J. (1998), "Ground Motions in Washington State from Subduction Zone Earthquakes, *Proceedings* Geo-Institute Specialty Conference on Geotechnical Earthquake Engineering and Soil Dynamics, Seattle, Vol. 1, pp. 54-65.

Stark, T. D., Olson, S. M., Kramer, S. L., and Youd, T. L. (1998) "Shear Strength of Liquefied Soil", *Proceedings* Geo-Institute Specialty Conference on Geotechnical Earthquake Engineering and Soil Dynamics, Seattle, Vol. 1, pp. 313-324.

Field, E.H. and Kramer, S. L., Elgamal, A.-W., Bray, J.D., Matasovic, N., Johnson, P.A., Cramer, C., Roblee, C., Wald, D.J., Bonilla, L.F., Dimitriu, P.P., and Anderson, J.G. (1998), "Nonlinear Response – Where We're At", *Seismological Research Letters*, Vol. 69, No. 3, pp. 230-234.

Holtz, R.D., Kramer, S.L., Hsieh, C.W., Huang, A.B., and Lee, W.F. (2001). "Failure analysis of an 80m high geogrid reinforced wall in Taiwan, *Proceedings*, International Conference on Soil Mechanics and Geotechnical Engineering, Istanbul, Turkey.

Kramer, S.L. and Paulsen, S.B. (2004). "The Prediction of Reinforced Slope Performance During Earthquakes," *Proceedings*, 11th International Conference on Soil Dynamics and Earthquake Engineering, Berkeley, California, pp. 275-282.

Kramer, S.L. and Mayfield, R.T. (2005). "De-aggregation of liquefaction hazard," *Proceedings*, International Society of Earthquake Engineering Conference, Kobe, Japan, 12 pp.

Kramer, S.L. and Mayfield, R.T. (2005). "Performance-based liquefaction hazard evaluation," *Proceedings*, GeoFrontiers 2005, ASCE, Austin, Texas, 18 pp.

Shin, H.-S., Arduino, P., Kramer, S.L., Ilankatharan, L., and Kutter, B.L. (2005). "Numerical analyses of seismic pile-soil interaction problem using OpenSees," Proceedings, Joint ASME/ASCE/SES Conference on Mechanics and Materials, Baton Rouge, Louisiana.

Ilankatharan, M., Kutter, B. L., Shin, H., Arduino, P., Kramer, S. L., Johnson, N., and Sasaki, T. (2006). "Comparison of Centrifuge and 1g Shake Table Models of a Pile Supported Bridge Structure," *Proceedings*, International Conference on Physical Modeling in Geotechnics, Hong Kong.

Kramer, S.L., Mayfield, R.T., and Anderson, D.G. (2006). "Performance-based liquefaction hazard evaluation: Implications for codes and standards," *Proceedings*, Eighth U.S. National Conference on Earthquake Engineering, San Francisco, Paper No. 888.

Arduino, P. Ilankatharan, M., Kramer, S.L., Kutter, B.L., and Shin, H.-S., (2006). "Seismic Soil-Foundation-Structure Interaction of Oriented Bridge Bents," *Proceedings*, Eighth U.S. National Conference on Earthquake Engineering, San Francisco, Paper No. 1669.

Arduino, P. Ilankatharan, M., Kramer, S.L., Kutter, B.L., and Shin, H.-S., (2006). "Experimental and Numerical Analysis of Seismic Soil-Pile-Structure Interaction of a Two-Span Bridge," *Proceedings*, Eighth U.S. National Conference on Earthquake Engineering, San Francisco, Paper No. 504.

Arduino, P. Eberhard, M.O., Kramer, S.L., Ranf, R., and Shin, H.-S. (2006). "Experimentally Based Evaluation of Soil-Foundation-Structure Interaction for a Reinforced Concrete Bridge," *Proceedings*, Eighth U.S. National Conference on Earthquake Engineering, San Francisco, Paper No. 1649.

Kramer, S.L. and Upsall, S.P. (2006). "Instrumental Intensity Scales for Geohazards," Proceedings, Geohazards – Technical, Economical, and Social Risk Evaluation, Lillehammer, Norway, June.

Mayfield, R.T. and Kramer, S.L. (2006). "Performance-Based Liquefaction Hazard Evaluation," Proceedings, KU-UW International Symposium #1 on Design Strategy towards Safety & Symbiosis of Urban Space, Kobe, Japan, September.

Kramer, S.L. and Upsall, S.B. (2006). "Geohazard Intensity Scales," Proceedings, KU-UW International Symposium #1 on Design Strategy towards Safety & Symbiosis of Urban Space, Kobe, Japan, September.

Kramer, S.L., Mayfield, R.T., and Huang, Y.-M. (2006). "Performance-Based Liquefaction Potential: A Step Toward More Uniform Design Requirements," Proceedings, U.S.-Japan Workshop on Seismic Design of Bridges, Bellevue, WA.

Kramer, S.L., Franke, K.W., Huang, Y.-M., and Baska, D.A. (2007). "Performance-Based Evaluation of Lateral Spreading Displacement," Proceedings, 4th International Conference on Earthquake Geotechnical Engineering, Paper No. 1208, Thessaloniki, Greece, 12 pp.

Shin, H.S., Arduino, P., and Kramer, S.L. (2007). "Performance-Based Evaluation of Bridges on Liquefiable Soils," Proceedings, 2007 Structures Congress, Structural Engineering Institute, ASCE, 16 pp.

Kramer, S.L. (2008). "Performance-Based Earthquake Engineering: Opportunities and Implications for Geotechnical Engineering Practice," Keynote Paper, Fourth Conference on Geotechnical Earthquake Engineering and Soil Dynamics, ASCE, Sacramento, 32 pp.

Shin, H.S., Arduino, P., Kramer, S.L., and Mackie, K. (2008). "Seismic Response of a Typical Highway Bridge in Liquefiable Soil, Fourth Conference on Geotechnical Earthquake Engineering and Soil Dynamics, ASCE, Sacramento, 11 pp.

Kramer, S.L. (2008). "Turkey Flat Ground Motion Prediction – Initial Review," *Proceedings*, Strong Motion Instrumentation Program Seminar, California Geologic Survey, Los Angeles, CA, 130 pp.

Kramer, S.L. (2009). "Role of soil investigation in performance-based design," *Proceedings*, International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Tsukuba, Japan, Invited Paper, 8 pp.

Kramer, S.L., Arudino, P., and Shin, H. (2009). "Development of performance criteria for foundations and earth structures," Proceedings, International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Invited Theme Lecture Paper, Tsukuba, Japan, 14 pp.

Kramer, S.L. (2009). "Analysis of Turkey Flat ground motion prediction experiment – Lessons learned and implications for practice," *Proceedings*, Strong Motion Seminar, California Strong Motion Instrumentation Program, San Francisco, 22 pp.

Akin, M., Kramer, S.L., and Topal, T. (2010). "Comparison of measured and estimated shear wave velocities in a seismically active area (Erbaa, Turkey), *Proceedings*, Fifth International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, San Diego, CA, 12 pp.

Kramer, S.L. and Huang, Y.-M. (2010). "Performance-based assessment of liquefaction hazards," Proceedings, 9th U.S. National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, 10 pp.

Kramer, S.L. (2011). "Performance-based design in geotechnical earthquake engineering practice," Invited State-of-the-Art Paper, Proceedings, 5th International Conference on Earthquake Geotechnical Engineering, Santiago, Chile, 34 pp.

Kramer, S.L. and Huang, Y.-M. (2011). "Performance-based post-liquefaction settlement hazard evaluation," Proceedings, 8th CUEE Conference, Center for Urban Earthquake Engineering, Tokyo, Japan, 6 pp.

Kramer, S.L., Hartvigsen, A.J., Sideras, S.S., and Ozener, P.T. (2011). "Site response modeling in liquefiable soil deposits," *Proceedings*, 4th IASPEI/IAEE International Symposium on Effects of Surface Geology on Seismic Motion, University of California, Santa Barbara,

Kramer, S.L., Shakal, A.F., Haddadi, H.R., and Real, C.R. (2012). "Near surface geology and the Turkey Flat ground motion prediction experiment – Lessons learned and implications for practice," *Proceedings*, 4th IASPEI/IAEE International Symposium on Effects of Surface Geology on Seismic Motion, University of California, Santa Barbara, 11 pp.

Sideras, S.S., and Kramer, S.L. (2012). "Potential implications of long duration ground motions on the response of liquefiable soil deposits," *Proceedings*, 9th International Conference on Urban Earthquake Engineering / 4th Asia Conference on Earthquake Engineering, Tokyo, Japan, 10 pp.

Ziotopoulou, Boulanger, R.W., and Kramer, S.L. (2012) "Site response analysis of liquefying sites," *Proceedings*, GeoCongress 2012, American Society of Civil Engineers, pp. 1799-1808.

Akin, M.K., Topal, T., and Kramer, S.L. (2012). "The potential of liquefaction-induced lateral spreading of Erbaa (Tokat-Turkey)," *Proceedings*, Fourth International Conference on Geotechnical and Geophysical Site Characterization, Porto de Galinhas, Brazil, 1513-1517.

Akin, M.K., Kramer, S.L., and Topal, T. (2012). "Evaluation of shear wave velocities using SPT-based uphole tests: A case study from Erbaa, (Tokat-Turkey)," *Proceedings*, Fourth International Conference on Geotechnical and Geophysical Site Characterization, Porto de Galinhas, Brazil, 897-902.

Kramer, S.L. (2012). "Performance-based design methodologies," *Proceedings*, Second International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, 23 pp.

Correia, A.A., Pecker, A., Kramer, S.L., and Pinho, R. (2012). "Nonlinear pile-head macro-element model: SSI effects on the seismic response of a monoshaft-supported bridge, *Proceedings*, 15th World Conference on Earthquake Engineering, Lisbon, Portugal, 10 pp.

Akin, M.K., Kramer, S.L., and Topal, T. (2013). "Assessment of post-liquefaction settlements in Erbaa (Tokat-Turkey)," *Proceedings*, International Conference on Earthquake Geotechnical Engineering, ICEGE Istanbul 2013 – From Case History to Practice, In Honor of Prof. Kenji Ishihara, Istanbul, Turkey.

Kramer, S.L., Astaneh, B., Ozener, P., and Sideras, S. (2013). "Effects of liquefaction on ground surface motions," *Proceedings*, International Conference on Earthquake Geotechnical Engineering, ICEGE Istanbul 2013 – From Case History to Practice, In Honor of Prof. Kenji Ishihara, Istanbul, Turkey.

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

Kramer, S.L. and Yang, Tse-Ming (1986) "Experimental Investigation of the Effects of Earthquake Shaking on Passive Pressures Against a Non-Yielding Wall", *Proceedings*, 22nd Symposium on Engineering Geology and Soils Engineering, Boise, Idaho, pp. 304-322.

Kramer, S.L. (1987) "Evaluation of Liquefaction Flow Slide Stability", *Proceedings*, 23rd Symposium on Engineering Geology and Soils Engineering, Logan, Utah.

Kramer, S.L. and Ho, Carlton L. (1989) "Recent Developments in Analysis of Liquefaction-Induced Landslides", *GSA Abstracts with Programs*, Vol. 21, No. 5, Abs. No. 28009, Spokane, Washington.

Schilling, C.H., Kramer, S.L., and Aksay, I.A. (1991) "Reversible Softening-Hardening Behavior During the Shape Forming of Advanced Ceramics", *Proceedings*, American Ceramics Society, October, 1991.

Kramer, S.L. and Robertson, P.K. (1993). "Case Histories in Geotechnical Earthquake Engineering", *Proceedings*, 3rd International Conference on Case Histories in Geotechnical Engineering, Vol. 3, St. Louis, Missouri.

De la Colina, J., Ryter, S., Eberhard, M.O., Wood, S.L., Kramer, S.L., and Sivaneswaran, N. (1994). "Seismic vulnerability of the Alaskan Way Viaduct", *Proceedings*, Second U.S.-Japan Workshop on Seismic Retrofit of Bridges.

Guide to Thesis Preparation - a nine-page guide to organization, preparation, and completion of a thesis for geotechnical engineering graduate advisees.

Punyamurthula, S. and Kramer, S.L. (1998). "Automated Processing of Resonant Column Test Data Using MATLAB," Applications of Mathematics Software in Geotechnical Engineering Practice, ASCE Geo-Institute Conference, Logan, Utah, pp. 28-34.

Kramer, S. L. (1998), "The Development of Geotechnical Earthquake Engineering", *Proceedings*, *Golden Anniversary Volume* (invited paper), Earthquake Engineering Research Institute Annual Meeting, San Francisco, pp. 10-20.

Kramer, S. L. and Yegian, M. (1998), "From Soil Dynamics to Geotechnical Earthquake Engineering", *Geotechnical News*, Vol. 16, No. 2, pp. 16-19.

Field, E.H. and Kramer, S.L. (1998). "Nonlinear Site Response: Seismology and Engineering Perspectives," *Geotechnical News*, Vol. 16, No. 2, pp. 22-24.

Field, E. H., S. Kramer, A.-W. Elgamal, J.D. Bray, N. Matasovic, P.A. Johnson, C. Cramer, C. Roblee, D.J. Wald, L.F. Bonilla, P.P. Dimitriu, and J.G. Anderson, (1998). "Nonlinear Site Response: Where We're At", *Proceedings of the VIIth International Symposium on the Observations of the Continental Crust through Drilling*, Vol. 69, No. 3., pp. 230-234.

Kramer, S.L., Wang, C.H., and Byers, M.B. (1999). "Experimental Measurement of the Residual Strength of Particulate Materials," *Physics and Mechanics of Soil Liquefaction*, Lade, P.V. and Yamamuro, J.A., eds., Balkema Publishers, Rotterdam, pp. 249-259.

Kramer, S.L. and Arduino, P. (1999). "Constitutive Modeling of Cyclic Mobility and Implications for Site Response," *Proceedings, Second International Conference on Earthquake Geotechnical Engineering* (invited paper), Lisbon, Portugal, Vol. 3, pp. 1029-1034.

Kramer, S.L. and Jones, A.J. (2000). "Implications of Great Cascadia Subduction Zone Earthquakes for Liquefaction and Landslides," *Proceedings, Penrose Conference* (invited paper), Seaside, Oregon, June.

Troost, K.G., Haugerud, R.A., Walsh, T.J., Harp, E.L., Booth, D.B., Steele, W.P., Wegmann, K.W., Pratt, T.L., Sherrod, B.S., and Kramer, S.L. (2001). "Ground failures produced by the Nisqually earthquake, *Proceedings*, Annual Meeting of Seismological Society of America, in press.

Haugerud, R. A., Troost, K. G., Harp, E. L., Wegmann, K. W., Sherrod, B. S., Pratt, T. L., Powers, P. S., and Kramer, S. L. (2001). "Regional Map View of Ground Deformation Associated with the Nisqually Earthquake, 28 February 2001"*Proceedings*, Annual Meeting of Seismological Society of America, in press.

Kramer, S.L. and Baska, D. (2001). "Use of Numerical Simulation in the Development of Empirical Predictions of Liquefaction Behavior," *Proceedings*, International Workshop on Modeling in Geotechnical Earthquake Engineering, Cleveland.

Kramer, S.L. and Paulsen, S.B. (2001). "Seismic Performance of MSE Structures in Washington State," *Proceedings*, International Geosynthetics Engineering Forum, Taipei, Taiwan, pp. 145-173.

Kramer, S.L., Bennetts, B.A., and Wang, C.H. (2002). "Sand Behavior at Large Strain in Ring Simple Shear," *Proceedings*, U.S.-Japan Workshop on Seismic Disaster Mitigation in Urban Areas by Geotechnical Engineering, Anchorage, Alaska.

Kramer, S.L., Mayfield, R.T., and Mitchell, R.A. (2004). "Ground Motions and Liquefaction – The Loading Part of the Equation," *Proceedings*, U.S.-Taiwan Workshop on Soil Liquefaction, National Chiao-Tung University, Hsinchu, Taiwan. 21 pp.

Kramer, S.L. and Paulsen, S.B. (2004). "Practical Use of Geotechnical Site Response Models," *Proceedings*, International Workshop on Uncertainties in Nonlinear Soil Properties and their Impact on Modeling Dynamic Soil Response, University of California, Berkeley, 10 pp.

Wood, S.L., Anagnos, T., Arduino, P., Eberhard, M.O., Fenves, G.L., Finholt, T.A., Futrelle, J.M., Grant, S.K., Jeremic, B., Kramer, S.L., Kutter, B.L., Matamoros, A.B., McMullin, K.M., Ramirez, J.A., Rathje, E.M., Saiidi, M., Sanders, D.H., Stokoe, K.H., Wilson, D.W. (2004). "Using NEES to Investigate Soil-Foundation-Structure Interaction," Proceedings, 13th World Conference on Earthquake Engineering, Vancouver, British Columbia, Paper No. 2344, 6 pp.

Arduino, P., Kramer, S.L., Li, P., and Horne, J.C. (2005). "Stiffness of Piles in Liquefiable Soils," *Proceedings*, International Workshop on Simulation and Seismic Performance of Pile Foundations in Liquefied and Laterally Spreading Ground, Davis, CA, ASCE Geotechnical Special Publication No. 145, pp. 134-148.

Beaty, M.H. and Kramer, S.L. (2012). "Liquefaction analysis," Chapter 6 in *Delta Seismic Design*, California Department of Water Resources, Sacramento, California, pp. 63-76.

Books

Kramer, S.L. (1996). *Geotechnical Earthquake Engineering*, Prentice Hall, Inc., Upper Saddle River, New Jersey, 653 pp.

Kramer, S.L. and Scawthorn, C.R. (1999): "Geotechnical Earthquake Considerations", Chapter 33 in *Earthquake Engineering Handbook*, W.F. Chen and L. Duan, eds., CRC Press.

Kramer, S.L. and Stewart, J.S. (2004). "Geotechnical Aspects of Seismic Hazards", Chapter 4 in Earthquake Engineering: From Engineering Seismology to Performance-Based Engineering, Y. Bozorgnia and V. Bertero, eds.,CRC Press, Boca Raton, 85 pp.

Entries on "Liquefaction" and "Lateral Spreading" in *Encyclopedia of Natural Hazards*, Springer, Heidelberg, Germany.

Kramer, S.L. and Scawthorn, C.R. (2013): "Geotechnical Earthquake Considerations", Chapter 33 in *Earthquake Engineering Handbook*, 2nd edition, W.F. Chen and L. Duan, eds., CRC Press.

Editing and Other Scholarly Papers

Kramer, S. and Siddharthan, R., eds. (1995). *Earthquake-Induced Movements and Seismic Remediation of Existing Foundations and Abutments*, ASCE National Convention, San Diego, California, 139 pp.

Boulanger, R.W., Dewoolker, M., Gucunski, N., Juang, C.-H., Kalinski, M.E., Kramer, S.L., Manzari, M., and Pauschke, J. (2005). *Earthquake Engineering and Soil Dynamics*, Geotechnical Special Publication 133, ASCE.

Sponsored Research

Agency	Title	Dollar Amount	PI/Co-PI	Funding Status	Start/Finish Dates
National Science Foundation (NSF)	Development of a Constant-Volume Triaxial Apparatus	$68,830	Kramer	Funded	5/15/85 - 12/31/87
Washington State Department of Transportation (WSDOT)	Development of p-y Curves for Analysis of Laterally Loaded Piles in Western Washington	$14,462	Kramer	Funded	10/31/86 - 12/31/87
WSDOT	Behavior of Piles in Full-Scale, Field Lateral Loading Tests	$49,800	Kramer	Funded	08/28/87 - 08/28/90
Graduate School Research Fund, University of Washington	A Collapse State Approach to the Initiation of Liquefaction	$5,931	Kramer	Funded	09/16/87 - 06/31/87
Graduate School Research Fund Equipment Grant, UW	Hollow Cylinder Triaxial Testing Apparatus	$7,500	Kramer	Funded	09/16/87 - 06/31/87

WSDOT	Evaluation of Bridge Approach Slab Effectiveness	$42,000	Kramer	Funded	08/01/88 - 04/01/91
NSF	Studies in Geomechanics	$25,000.	Kramer	Funded	07/15/88 - 12/31/92
Sweet-Edwards/EMCO N Associates, Inc	Frictional Resistance of Geomembranes	$9,875	Kramer	Funded	09/16/88-03/31/89
Westinghouse Environmental Services	Investigation of Particle Migration Potential	$28,367	Kramer, Holtz	Funded	03/16/89 - 09/15/89
NSF (PYI Renewal)	Studies in Geomechanics	$55,505	Kramer	Funded	06/01/89 - 05/31/90
Strategic Highway Research Program (SHRP), IDEA Program	Development and Verification of a Flexible Stress Cell	$87,737	Kramer	Funded	10/16/90 - 02/28/93
WSDOT	Lateral Load Testing of Piles	$60,000	Kramer	Funded	08/28/87 - 08/18/90
WSDOT	Evaluation of Tieback Performance	$40,000	Kramer	Funded	02/01/90-02/02/92
WSDOT	Seismic Response of Pile Foundations in Very Soft Soil	$70,000	Kramer	Funded	05/31/90 - 12/31/91
NSF (PYI Renewal)	Studies in Geomechanics	$62,500	Kramer	Funded	06/01/91 - 05/31/91
Woodward-Clyde Consultants	Three-Dimensional Analysis of Waste Impoundment Stability	$15,000	Kramer	Funded	10/01/90 - 09/30/91
NSF (PYI Renewal)	Studies in Geomechanics	$62,500	Kramer	Funded	06/01/91 - 05/31/92
NSF	Workshop on Soil Improvement and Foundation Remediation with Emphasis on Seismic Hazards	$49,592	Kramer, Holtz	Funded	03/15/91- 02/28/93
WSDOT	Dynamic Response of Peats,	$103,900	Kramer	Funded	04/01/92 - 09/30/96
NSF	Investigation of Foundation Isolation Tube Performance	$165,035	Kramer	Funded	06/01/93 -11/30/96
NSF (PYI Renewal)	Studies in Geomechanics	$62,500	Kramer	Funded	06/01/92 - 05/31/93
WSDOT	Seismic Vulnerability of Alaskan Way Viaduct - Phase II	$280,900	Kramer, Eberhard	Funded	09/16/93 - 12/31/95
NSF (PYI Renewal)	Studies in Geomechanics	$37,500	Kramer	Funded	06/01/93 - 05/31/94
WSDOT	Effects of Liquefaction on Pile Foundation Performance	$93,600	Kramer	Funded	05/01/94 - 01/31/97
NSF	Seismic Design of Geosynthetic-Reinforced Soil Slopes	$460,911	Kramer, Holtz, Taylor	Funded	11/01/94 - 10/31/96

Swedish National Road Administration	Procedures for Real-Time Dynamic Analysis of Pavement Response to the High-Speed Road Deflection Tester	$125,000	Kramer, Mahoney and Turkiyyah	Funded	12/01/95 - 11/31/97
WSDOT	Site-Specific Ground Motions in Washington State due to Great Earthquakes on the Cascadia Subduction Zone	$50,000	Kramer	Funded	02/01/96 - 09/30/97
WSDOT	Dynamic Stiffness of Piles in Liquefied Soils	$92,495	Kramer, Arduino	Funded	6/16/98 – 6/15/00
NSF/USGS	Dynamic Properties of Heavily Overconsolidated Soils	$199,964	Kramer, Chang (WSU)	Pending	1/1/99 – 12/31/00
PEER	Evaluation and Characterization of Uncertainty in Geotechnical Parameters	$59,000	Arduino, Kramer	Funded	5/16/99 - 5/15/00
PEER	Uncertainty in the Residual Strength of Liquefied Soil	$55,000	Kramer	Funded	5/16/99 - 5/15/00
PEER	State-of-the-Art Report on Liquefaction and Lateral Spreading	$20,000	Kramer, Elgamal (UCSD)	Funded	5/16/00 – 5/15/01
PEER	Uncertainty in the Residual Strength of Liquefied Soil	$55,000	Kramer	Funded	5/16/00 - 5/15/01
WSDOT	Liquefaction Hazards in Washington State	$180,000	Kramer	Funded	6/16/99 - 6/15/01
WSDOT	Alaskan Way Viaduct Instrumentation System	$75,000	Kramer, Eberhard, Arduino	Funded	9/1/99 – 8/31/00
NSF	Taiwan Earthquake Reconnaissance	$14,999	Kramer	Funded	9/21/99 – 9/20/00
FEMA	Nisqually Earthquake Clearinghouse	$42,835	Qamar, Kramer, Beyers, Brown	Funded	3/16/01 – 9/30/01
PEER	Effects of Geotechnical Uncertainty on EDPs	$30,000	Kramer	Funded	10/1/01 – 0/30/02
WSDOT	Liquefaction Hazards in Washington State	$200,000	Kramer	Funded	3/1/02 – 2/28/04
PEER	Effects of Geotechnical Uncertainty on EDPs	$70,000	Kramer Arduino	Funded	10/15/02 – 10/14/03
WSDOT	Liquefaction Hazards in Washington State	$200,000	Kramer	Funded	10/1/04 – 9/30/06
PEER	Effects of Geotechnical Uncertainty on EDPs	$70,000	Kramer, Arduino	Funded	10/15/03 – 10/14/04
PEER	PBEE Assessment of the Effects of Ground Liquefaction on Bridges	$84,997	Kramer, Arduino	Funded	10/1/04 – 9/30/05

PEER	PBEE Assessment of the Effects of Ground Liquefaction on Bridges	$85,000	Kramer, Arduino	Funded	10/1/05 – 9/30/06
USGS	Performance-Based Liquefaction Potential Evaluation	$67,498	Kramer	Funded	1/1/06 – 12/31/06
WSDOT/Caltrans	Seismic LRFD Procedures for Geotechnical Design	$100,000	Kramer, Baker (Stanford)	Funded	6/1/08-5/31/09
NSF	Collaborative Research: Characterization and Modeling of the Seismic Response of Marginal Plasticity Soils	$219,682	Kramer, Arduino, Stewart (UCLA), Brandenberg (UCLA)	Denied	10/1/09-9/30/12
NSF	Evolutionary Intensity Measures for More Accurate and Informative Liquefaction Hazard Evaluation	$571,682	Kramer, Hazirbaba (Alaska-Fairbanks), Kuhn (Portland)	Funded	10/1/09-9/30/12
NSF	GRS: Evolutionary Intensity Measures for More Accurate and Informative Liquefaction Hazard Evaluation	$41,000	Kramer	Denied	9/16/2010-9/15/2011
USGS	Collaborative Research with Penn State University, Univ. of Michigan, Univ. of Washington and Washington State DNR: VisCPT characterization of ANSS and DNR sites for the diagnosis of liquefaction potential – toward cross-correlation between invasive and non-invasive methods	$9,986	Kramer	Denied	5/1/2011-4/30/2012
Caltrans	LRFD Procedures for Geotechnical Seismic Design	$100,000	Kramer	Funded	6/1/2009-5/30/2010
WSDOT	LRFD Procedures for Geotechnical Seismic Design	$100,000	Kramer	Funded	6/1/2010-5/30/2011
WSDOT	Earthquake Ground Motion Selection	$32,475	Kramer, Arduino	Funded	1/1/11-6/1/11
PEER	Effects of Long-Duration Ground Motions on Geotechnical Performance	$69,991	Kramer	Funded	6/16/2011-6/15/2012
PEER	Effects of Liquefaction on Surface Response Spectra	$71,970	Kramer	Funded	6/1/2013-5/31/2014
PEER	Next Generation Liquefaction: Japan Data Collection	$119,992	Kramer	Funded	2/1/14-6/30/15

Project reports (reports to sponsors)

Kramer, S.L. (1985) "Liquefaction of Sands Due to Non-Seismic Liquefaction", Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, University of California, Berkeley, January.

Kramer, S.L. (1987) "Development of p-y Curves for Analysis of Laterally Loaded Piles in Western Washington", Final Report, Washington State Department of Transportation, Olympia, Washington, 58 pp.

Heavey, Edward J. and Kramer, S.L. (1987) "Analysis of Laterally Loaded Piles with Nonlinear Bending Behavior", Soil Engineering Report No. 28, University of Washington, October, 95 pp.

Banerjee, S., Kramer, S.L., and Adjali, Salim (1988) "Physical and Numerical Model Studies of the Dynamics of a Cantilever Wall", Soil Engineering Report No. 29, University of Washington, January, 213 pp.

Kramer, S.L. and Sivaneswaran, N. (1988) "Measurement and Analysis of Membrane Penetration", Soil Engineering Report No. 30, University of Washington, May, 110 pp.

Marimba, Percy and Kramer, S.L. (1989) "Frictional Characteristics of Geomembranes", Soil Engineering Report No. 31, University of Washington, June, 128 pp.

Jonsdottir, Ingunn E. and S.L. Kramer (1989) "Investigation of Stress Redistribution in the Vicinity of Earth Pressure Cells", Soil Engineering Report No. 32, University of Washington, July, 119 pp.

Kramer, S.L. (1991) "Behavior of Piles in Full-Scale, Field Lateral Loading Tests", Final Report, Washington State Department of Transportation, Olympia, Washington, October, 79 pp.

Kramer, S.L. and Sajer, P. (1992). "Bridge Approach Slab Effectiveness", Final Report, Washington State Department of Transportation, Olympia, Washington, March, 202 pp.

Kramer, S.L. and Holtz, R.D. (1992). "Soil Improvement and Foundation Remediation with Emphasis on Seismic Hazards", Report of National Science Foundation Workshop, Univeristy of Washington, 104 pp.

Kramer, S.L. (1992). "Evaluation of Insitu Tieback Characteristics", Draft Final Report, Washington State Department of Transportation, Olympia, Washington.

Brown, C.B., Eberhard, M.O., Kramer, S.L., Roeder, C.W., and Stanton, J.F. (1992). "Preliminary Investigation of the Seismic Vulnerability of the Alaskan Way Viaduct", Washington State Department of Transportation, 84 pp.

Kramer, S.L. (1993). "Seismic Response - Foundations in Soft Soils", Final Report, Washington State Department of Transportation, Olympia, Washington.

Kramer, S.L., Sivaneswaran, N., and Tucker, K. (1995). "Seismic Vulnerability of the Alaskan Way Viaduct: Geotechnical Engineering Aspects", Washington State Department of Transportation, 174 pp.

Kramer, S.L. (1996). "Dynamic Response of Peats", Washington State Department of Transportation, in press.

Kramer, S.L. and Horne, J.C. (1996), "Effects of Liquefaction on Pile Foundations," Washington State Department of Transportation, in press.

Kramer, S. L., Silva, W. J., and Baska, D. A., (1998) "Ground Motions Due to Large Magnitude Subduction Zone Earthquakes", *Final Report*, Washington State Transportation Center, Seattle.

Stark, T.D., Kramer, S. L., and Youd, T. L. (1998) "Shear Strength of Liquefied Soil, National Science Foundation Workshop Report, University of Illinois, Urbana, 98 pp.

Kramer, S.L. and Elgamal, A.-W. (2001). "Modeling Soil Liquefaction Hazards for Performance-Based Earthquake Engineering," State-of-the-Art Report, Pacific Earthquake Engineering Research Center, in preparation.

Kramer, S.L., Arduino, P., Baska, D.A., and Li, P. (2001). "Dynamic Stiffness of Piles in Liquefiable Soils," Washington State Department of Transportation, in press.

Kramer, S.L., Arduino, P., Eberhard, M.O., and Jones, A.L. (2001). "Alaskan Way Viaduct Instrumentation System," Washington State Department of Transportation, 125 pp.

Jones, A.L., Kramer, S.L., and Arduino, P. (2002). "Estimation of Uncertainty in Geotechnical Properties for Performance-Based Earthquake Engineering," *PEER Report 2001/03*, 104 pp..

Kramer, S.L. and Elgamal, A.-W. (2002). "Modeling Soil Liquefaction Hazards for Performance-Based Earthquake Engineering," *PEER Report 2001/13*, 165 pp.

Kramer, S.L. and Wang, C.H. (2004). "Residual Strength of Liquefied Soil," *PEER Report 2005/xx*, in press, 240 pp.

Ilankatharan, M., Sasaki, T., Shin, H., Kutter, B. L., Arduino, P., and Kramer, S. L., 2005. A demonstration of NEES system for studying soil-foundation-structure interaction- Centrifuge data report for MIL01. Rep. No. UCD/CGMDR-05/05, Ctr. for Geotech. Modeling , Dept. of Civ. and Envir. Engrg., University of California, Davis, Calif.

Kramer, S.L., Mayfield, R.T., and Huang, Y.-M. (2008). "Performance-Based Liquefaction Potential Evaluation," Project Report, USGS Project No. 06HQGR0041, 50 pp.

Kramer, S.L., Arduino, P., and Shin, H.S. (2008). "Performance of Bridges in Liquefiable Soil," PEER Project Report, Pacific Earthquake Engineering Research Center, 200 pp.

Kramer, S.L. (2009). "Evaluation of Liquefaction Hazards in Washington State," Washington State Transportation Center, Final Report, 245 pp.

Kramer, S.L. (2009). "Interpretation of Turkey Flat Site Response Experiment Results: Lessons Learned and Recommended Practices," California Strong Motion Instrumentation Program, Sacramento, Final Report, 168 pp.

Kramer, S.L., Arduino, P., and Sideras, S.S. (2012). "Earthquake Ground Motion Selection," Washington State Transportation Center, Final Report, 46 pp.

Kramer, S.L., Valdez, C., Blanchette, B., and Baker, J.W. (2014). "Performance-based design factors for pile foundation," Research Report, Washington State Transportation Center, 230 pp.

Other Research-Related Activities

Title	Start/Finish Dates	Reason for undertaking (e. g., publications, future funding, public importance, other)
Analysis of Laterally Loaded Piles with Nonlinear Bending Behavior	1986-87	Outgrowth of funded research project. Led to journal publications.
METRO Tunnel Tieback Investigation	1988	Took advantage of unique opportunity afforded by METRO bus tunnel construction. Led to funded project with WSDOT.
Investigation of Collapse Surface Behavior of Sands	1988-89	Developed supporting data for NSF proposal
Stress Redistribution in the Vicinity of Earth Pressure Cells	1988-89	Led to funded project with SHRP.
Efficient Identification of Noncircular Slope Failure Surfaces	1992	Exploration of a good idea. Led to journal publication

Seismic Stability of Landfills	1994-95	Motivated by NSF workshop. Led to journal publication.
Green's Function Analysis of Pavement Response to Moving Wheel Loads	1995	Led to funded project with Swedish National Road Administration
Effects of Spectral Smoothing on Synthetic Ground Motions	1995	Will use for NSF proposal
System Identification Using FLAC	1996-97	For possible development of NSF proposal
Liquefaction Web Site	1997-98	Public Service
Development of Ring Simple Shear Device	1997-98	For development of NSF proposal
Newmark Model for Lateral Spreading	1999-2001	Validation of constitutive model; exploration of physical phenomenon
Displacement of Three-Dimensional Wedge Under One-, Two-, and Three-Dimensional Seismic Excitation	2000-2001	May use for NSF proposal

Invited Lectures and Seminars

Locations (institution, etc.)	Title of Seminar/Lecture	Date (month/year)
Invited Panel Member, Workshop on Geotechincal Engineering Research at U.S. Universities, USUCGER, Houston, Texas	"Young Researcher's Perspective"	March, 1987
Seattle Geotechincal Section, ASCE, Short Course on Applications of Probabilistic Methods in the Applied Earth Sciences, Seattle, Washington	"Fundamentals of Probability"	April, 1987
ASCE Seattle Geotechnical Section Spring Seminar on Geotechincal Aspects of Earthquake Engineering, Seattle, Washington	"Ground Response Analysis"	May, 1990
ASCE Seattle Geotechnical Section Spring Seminar on Geotechincal Aspects of Earthquake Engineering, Seattle, Washington	"Evaluation of Liquefaction Potential"	May, 1990
Structural and Geotechincal Engineering Seminar, Washington State University, Pullman, Washington	"Dynamic Field Testing of Piles in Peat"	October, 1990
Seattle Geotechnical Group, ASCE	"Dynamic Response of Pile Foundations in Peat"	March, 1991
GeoEngineers, Inc., Seminar, Redmond, Washington	"Seismic Risk and Ground Response Analysis"	April, 1991
National Science Foundation Workshop on Soil Improvement and Foundation Remediation with Emphasis on Seismic Hazards. Seattle, Washington	"Overview of Seismic Hazards"	August, 1991

Department of Geotechincal Engineering, Norwegian Institute of Technology, Trondheim, Norway	"Applications of System Identification in Geotechincal Engineering"	November, 1994
Institute of Solid Earth Physics, University of Bergen, Bergen, Norway	"Engineering Seismic Hazards"	November, 1994
Norwegian Earthquake Engineering Society, Oslo, Norway	"Introduction to Earthquake Engineering"	November, 1994
Northwest Engineers Club, Bellingham, Washington	"Seismic Hazards – Around the World and in the Puget Sound Basin"	January, 1995
Woodward-Clyde Consultants, Seattle, Washington	"Seismic Slope Stability Analysis – A New Approach"	March, 1995
University of Tokyo, Tokyo, Japan	"The Effect of Compliance and Energy Dissipation on Slope Movements During Earthquakes"	March, 1995
Business Disaster Preparedness Conference, American Red Cross, Seattle, Washington	"Earthquake Damage in Kobe, Japan"	April, 1995
International Conference of Building Officials, Pacific Northwest Chapter, Seattle, Washington	"Geotechnical Earthquake Engineering"	June, 1996
University of California at San Diego, La Jolla, California,	"The Effect of Liquefaction on Pile Foundations"	August, 1996
Seattle Geotechincal Group, ASCE	"Liquefaction and the Alaskan Way Viaduct"	October, 1996
University of California at Berkeley, Berkeley, California	Seismic Hazards in Seattle	April, 1997
Washington State University, Pullman, Washington	Liquefaction and the Alaskan Way Viaduct	September, 1997
University of California at Los Angeles, Los Angeles, California	Liquefaction Hazards in Seattle	February, 1998
UW Alumni Meeting, Los Angeles, California	Earthquake Engineering Research at the University of Washington	March, 1998
Seattle Geotechnical Group, ASCE	Effects of Liquefaction on Pile Foundations	September, 1999
University of British Columbia, Vancouver, B.C.	Liquefaction and the Alaskan Way Viaduct	November, 1999
Vancouver Geotechnical Society, Vancouver, B.C.	Numerical Modeling of the Effects of Liquefaction on Pile Foundations	November, 1999
Portland Geotechnical Group, ASCE, Portland, Oregon	Effects of Liqufaction on Pile Foundations	November, 1999
Earthquake Engineering Research Institute Technical Briefing, San Francisco, California	Seismological and Geotechnical Aspects of the February 28, 2001 Nisqually Earthquake	April, 2001

Earthquake Engineering Research Institute Technical Briefing, Pasadena, California	Seismological and Geotechnical Aspects of the February 28, 2001 Nisqually Earthquake	April, 2001
Earthquake Engineering Research Institute Technical Briefing, Washington, D.C.	Seismological and Geotechnical Aspects of the February 28, 2001 Nisqually Earthquake	April, 2001
ASCE Geotechnical Group, Los Angeles Section, Los Angeles, California	Improved Procedures for Estimation of Lateral Spreading Deformations	June, 2001
Vancouver Society of Civil Engineers, Vancouver Geotechnical Society, Vancouver, B.C.	Geotechnical Engineering Aspects of the Nisqually Earthquake	October, 2001
Seattle ASCE Geotechnical Group Spring Seminar, Seattle, Washington	Seismicity of the Pacific Northwest	April, 2002
Universidad de Chile, Santiago, Chile	Prediction of the Residual Strength of Liquefied Soil	June, 2004
Universidad de Chile, Santiago, Chile	Effects of Lateral Spreading on Pile Foundations	June, 2004
Universidad de Chile, Santiago, Chile	Performance-Based Earthquake Engineering: Recent Developments, Implication, and Opportunities for Geotechnical Engineering Practice	June, 2004
KU-UW International Symposium on Design Strategy towards Safety and Symbiosis of Urban Space, Seattle, Washington	Characterization of Earthquake Loading for Liquefaction Hazard Evaluation	June, 2004
Kobe University, Kobe, Japan	Estimation of Permanent Displacements of Reinforced Slopes	January, 2005
ASCE Geotechnical Group, Portland, Oregon	Residual Shear Strength of Liquefied Soil	March, 2005
ASCE Seattle Section Meeting, Seattle	Performance-Based Liquefaction Hazard Evaluation	February, 2006
Robert D. Holtz Symposium, Seattle	Performance-Based Earthquake Engineering: Implications for Geotechnical Practice	April, 2007
University of California, San Diego	Performance-Based Liquefaction Hazard Evaluation	June, 2007
Politecnico di Torino, Torino, Italy	Performance-Based Earthquake Engineering: Implications for Geotechnical Practice	December, 2007
Politecnicl di Torino, Torino, Italy	Performance-Based Liquefaction Hazard Evaluation: Concepts and Tools	December, 2007
ROSE School, Pavia, Italy	Performance-Based Liquefaction Hazard Evaluation	December, 2007

Sowers Symposium, Georgia Tech, Atlanta	Site Response Analysis in Geotechnical Engineering Practice (State of the Practice invited presentation)	May, 2008
EERI Deep Foundation Soil-Structure Interaction Seminars – Seattle, San Francisco, and Los Angeles	Soil-Structure Interaction: Basics and Deep Foundations	July, 2008
CSMIP Annual Seminar, Los Angeles	Turkey Flat Ground Motion Predictions – Initial Review	September, 2008
ASCE Los Angeles Section Spring Seminar, Long Beach	Performance-Based Evaluation of Liquefaction Hazards	April, 2009
PEER Bridge Research Workshop	LRFD Procedures for Geotechnical Seismic Design	August, 2009
CSMIP Annual Seminar, San Francisco	Analysis of Turkey Flat Ground Motion Prediction Experiment – Lessons Learned and Implications for Practice	September, 2009
Middle East Technical University, Ankara, Turkey	Performance-Based Evaluation of Liquefaction Hazards	December, 2009
U.C. Davis	Performance-Based Evaluation of Liquefaction Hazards	March, 2010
University of British Columbia	Performance-Based Evaluation of Liquefaction Hazards	March, 2010
Vancouver Geotechnical Society, Vancouver, B.C.	Site Response Analysis in Geotechnical Engineering Practice	March, 2010
Portland Section, ASCE, Portland, Oregon	Performance-Based Evaluation of Liquefaction Hazards	May, 2010
Oregon State University	Site Response Analysis in Geotechnical Engineering Practice	May, 2010
University of Texas	Performance-Based Geotechnical Earthquake Engineering	October, 2010
Northwestern University, Evanston, IL (Osterberg Lecture)	Performance-Based Design for Extreme Events	May, 2011
University of California, Berkeley (Distinguished Lecture)	Performance-Based Liquefaction Hazard Evaluation	May, 2012
UCLA	Residual Strength of Liquefied Soil	February, 2013

Oregon State University	Performance-Based Geotechnical Earthquake Engineering: Concepts and Implementation	March, 2013
University of Texas, Austin	Residual Strength of Liquefied Soil	September, 2013

Presentations Given at Conferences

Conference Title/Location	Title of Seminar/Lecture	Date (month/year)
22nd Symposium on Engineering Geology and Soils Engineering, Boise, Idaho	"Experimental Investigation of the Effects of Earthquake Shaking on Passive Pressures Against a Non-Yielding Wall"	February, 1986
Committee on Foundations for Bridges and Other Structures, Transportation Research Board, Washington, D.C.	"Lateral Load Response of Nonlinear Piles"	January, 1987
Workshop on Geotechnical Engineering Research at U.S. Universities, USUCGER, Houston, Texas	"Geotechnical Engineering Research at the University of Washington"	March, 1987
Symposium on Earthquake-Induced Landslides, Geologic Society of America, Spokane, Washington	"Recent Developments in Analysis of Liquefaction-Induced Landslides"	May, 1989
69th Annual Meeting, Transportation Research Board, Washington, D.C.	"Evaluation of In-situ Strength of a Peat Deposit from Laterally Loaded Pile Test Results"	January, 1990
Northwest Geotechnical Engineers Workshop Vancouver, Washington	"Evaluation of Bridge Approach Slab Effectiveness"	August, 1991
Third International Conference on Case Histories in Geotechnical Engineering, St. Louis, Missouri	"Case Histories of Geotechnical Earthquake Engineering" (invited)	April, 1993
50th Anniversary meeting, Earthquake Engineering Research Institute, San Francisco, California	"The Development of Geotechnical Earthquake Engineering" (invited)	February, 1998
International Workshop on the Physics and Mechanics of Soil Liquefaction, Baltimore, Maryland	"Experimental Measurement of the Residual Strength of Particulate Materials"(invited)	September, 1998
Second International Conference on Earthquake Geotechnical Engineering, Lisbon, Portugal	"Constitutive Modeling of Cyclic Mobility and Implications for Site Response" (invited)	June, 1999
International Workshop on the 923 (Chi-Chi) Earthquake, Taichung, Taiwan	"Geotechnical Damage Observations and Implications for Reconstruction" (invited)	December, 1999

Penrose Conference on Cascadia Subduction Zone Earthquakes, Seaside, Oregon	"Implications of Great Cascadia Subduction Zone Earthquakes for Liquefaction and Landslides" (invited)	June, 2000
GeoEng 2000, Melbourne, Australia	"Liquefaction and Lateral Soil Movement"	November, 2000
PEER Annual Meeting, Oakland, California	"Ground Deformation and Lateral Spreading"	January, 2001
International Geosynthetics Engineering Forum, Taipei, Taiwan	"Seismic Performance of MSE Structures in Washington State" (invited)	November, 2001
International Workshop on Modeling in Geotechnical Earthquake Engineering, Cleveland, Ohio	"Use of Numerical Simulation in the Development of Empirical Predictions of Liquefaction Behavior" (invited)	November, 2001
Annual Meeting of the Seismological Society of America, Victoria, B.C.	"Geotechnical Engineering Aspects of the Nisqually Earthquake" (invited)	April, 2002
U.S.-Japan Workshop on Seismic Disaster Mitigation in Urban Areas by Geotechnical Engineering, Anchorage, Alaska, in press.	"Sand Behavior at Large Strain in Ring Simple Shear"	June, 2002
U.S.-Taiwan Workshop on Soil Liquefaction, Hsinchu, Taiwan	"Ground Motions and Liquefaction – The Loading Part of the Equation"	November, 2003
7-9. 11th Int'l Conf. on Soil Dynamics and EQ Eng./3rd Int'l. Conf. on EQ Geotech. Eng., Berkeley, CA.	"The Prediction of Reinforced Slope Performance During Earthquakes"	January, 2004
International Workshop on Uncertainties in Nonlinear Soil Properties and their Impact on Modeling Dynamic Soil Response, Berkeley, California	"Practical Use of Geotechnical Site Response Models"	March, 2004
International Society of Earthquake Engineering Conference, Kobe, Japan.	"De-aggregation of liquefaction hazard"	January, 2005
ASCE GeoFrontiers Conference, Austin, Texas	"Performance-Based Liquefaction Hazard Evaluation"	January, 2005
Norwegian Geotechnical Institute, Oslo, Norway	Behavior of Pile Foundations in Liquefiable Soils during Earthquakes	October, 2005
Microsoft Research, Redmond, Washington	"Seismic Hazards in the Puget Sound Region"	November, 2005
8th U.S. National Conference on Earthquake Engineering, San Francisco	"Performance-Based Liquefaction Hazard Evaluation: Implications for Codes and Standards"	April, 2006
Lillehammer	"Instrumental Intensity Scales for Geohazards"	June, 2006

Turkey Flat Blind Prediction Workshop, San Francisco	"Review and Interpretation of Equivalent Linear Analyses"	September, 2006
US-Japan Bridge Workshop, Seattle	"Performance-Based Liquefaction Potential: A Step Toward More Uniform Design Requirements"	October, 2006
Fourth International Conference on Earthquake Geotechnical Engineering, Thessaloniki, Greece	"Performance-Based Lateral Spreading Evaluation"	June, 2007
Fourth International Conference on Earthquake Geotechnical Engineering, Thessaloniki, Greece	"Review of Papers in Session 1	June, 2007
Fourth International Conference on Earthquake Geotechnical Engineering, Thessaloniki, Greece	Performance-Based Earthquake Engineering: New Demands for Geotechnical Research	June, 2007
Geotechnical Earthquake Engineering and Soil Dynamics IV (GEESD IV), Sacramento, California	Performance-Based Earthquake Engineering: Opportunities and Implications for Geotechnical Engineering Practice, *Invited Keynote Lecture*	May, 2008
International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Tokyo, Japan	Role of soil investigation in performance-based design	June, 2009
International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Tokyo, Japan	Development of performance criteria for foundations and earth structures, *Invited Theme Lecture*	June, 2009
X Seminario Ingenieria Estructural y Sismica, San Jose, Costa Rica	Performance-based liquefaction hazard evaluation	September, 2009
X Seminario Ingenieria Estructural y Sismica, San Jose, Costa Rica	Site response analysis in engineering practice	September, 2009
PEER Annual Meeting, San Francisco, California	Intensity measures for geotechnical modeling and PBEE applications	October, 2009
8th U.S. National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada	Performance-based assessment of liquefaction hazards	July, 2010
Fifth International Conference on Earthquake Geotechnical Engineering, Santiago, Chile	Performance-based design in geotechnical engineering practice, *Keynote Lecture*	January, 2011
8th CUEE Conference, Tokyo, Japan	Performance-based assessment of post-liquefaction settlement	March, 2011

4th IASPEI/IAEE International Symposium on Effects of Surface Geology on Seismic Motion, U.C. Santa Barbara	Site response modeling in liquefiable soil deposits	August, 2011
Second International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy	Performance-based design methodologies, *Keynote Lecture*	May, 2012
Prenolin (Prediction of nonlinear response) workshop, Lyon, France	PSNL model: Description and attributes	June, 2013
International Conference on Earthquake Geotechnical Engineering, ICEGE Istanbul 2013 – From Case History to Practice, In Honor of Prof. Kenji Ishihara	Effects of liquefaction on ground surface motions	June, 2013
Cascadia Liquefaction Assessment Needs Workshop, Portland, OR	Liquefaction assessment tool developed for Washington State Department of Transportation	August, 2013

Professional Licenses

Registered Civil Engineer, California (inactive)

Professional Society Membership

American Society of Civil Engineers
International Society for Soil Mechanics and Geotechnical Engineering
U.S. National Society
Seismological Society of America
ASFE: The International Society of Firms Practicing in the Geosciences
U.S. Universities Council on Geotechnical Engineering Research
Earthquake Engineering Research Institute

Professional Society and Other Service

American Society of Civil Engineers, Member
- Geotechnical Division *ASCE News* Assoc. Correspondent, Oct. 1988-Sept. 1989
- Geotechnical Division *ASCE News* Correspondent, October 1989-1992
- Soil Dynamics Committee, Member
- Chairman, Organizing Committee, 1998 Specialty Conference on Geotechnical Earthquake Engineering and Soil Dynamics
- *Geotechnical News*, USNS Editor, October 1989-October 1992
- Editorial Board Member, *Journal of Geotechnical and Geoenvironmental Engineering*, 2004 - 2008
- Conference and Events Committee, Member
- GeoTrans 2004, Organizing Committee Member
- Earthquake Engineering and Soil Dynamics 2008, Organizing Committee Member
- Conference Coordination Committee, Chair, 2006-present

Earthquake Engineering Research Institute, Member

Earthquake Spectra
Guest Editor for Special Issue on NGA-West2 GMPEs
Editorial Board – 2013-present
U.S. Universities Council on Geotechnical Engineering Research
University of Washington Contact Member
Member, Executive Committee, 1986-87
Member, Board of Directors, 1988-1991
Chairman, Nominating Committee, 1988-89
Secretary, 1989-1991
Transportation Research Board, Associate
Committee A2L03, Soil and Rock Properties, Member
Pacific Earthquake Engineering Research (PEER) Center
Executive Management Committee Member
Research Executive Committee Member
Seismological Society of America
Technical Session Organizer, 1999 Annual Meeting
Technical Session Moderator, 1999 Annual Meeting

Reviews Made

Referee:

Journal title	Number of articles refereed
Journal of Geotechnical Engineering	Approx. 3/yr
Geotechnical Testing Journal	Approx. 1/yr
Transportation Research Record	Approx. 2/yr

Reviewer:
Reviewer of proposals for National Science Foundation, U.S. Geological Survey, and other agencies.

Awards and Honors

Chi Epsilon Civil Engineering Honor Society, 1976
Honor Students Society, University of California at Berkeley, 1976
Research Initiation Award, National Science Foundation, 1985
Presidential Young Investigator Award, National Science Foundation, 1988
Arthur Casagrande Professional Development Award, ASCE, 1991
Walter Huber Research Prize, ASCE, 1996
John R. Kiely Professorship, University of Washington, 1997
Norman Medal, ASCE, 2009
Puget Sound Academic Engineer of the Year, Puget Sound Engineering Council, 2012

Teaching (Courses taught at the University of Washington)

Course Number	Title	Year & Quarter Taught	Instructor's Avg of Items 1-4
CIVE 366	Basic Soil Mechanics	W85	4.20
		W86	
		Su86	4.20
		W87	3.97
		W88	Yes

		W89	4.05
		Sp90	4.11
		Sp91	4.31
		Sp92	4.01
		W94	3.70
		Sp95	3.75
		W96	3.90
		Sp97	3.78
		W 98	3.68
		Sp01	3.32
		Sp04	4.1
		Sp05	4.1
		W06	3.7
		Sp07	4.2
		W08	4.0
		W09	4.2
		W10	4.3
		Sp13	4.2
CEE 431	Seismology and Earthquake Engineering	W06	4.0
CESM 466/436	Foundation Design	Sp85	3.97
		Sp86	
		Sp87	3.46
		W88	4.34
		Sp88	4.33
		Sp89	
		W90	
		A90	4.24
		A97	3.83
		A98	3.30
		A99	3.61
		Sp06	3.6
		Su10	4.0
		Su11	4.4
		A11	4.2
		A13	4.1
CESM 521	Advanced Geotechnical Engineering I	A84	4.31
		A85	
		A86	4.42
		A87	3.97
		A88	4.21
		A89	4.00
		A99	3.83
		A01	4.93
		A02	4.7
		A04	4.6
		W06	4.1
		A08	4.2
CESM 522	Shear Strength and Slope Stability	A91	
		A93	3.93
		A95	4.10

		A96	4.40
		A02	4.2
		A05	4.0
		A07	3.7
		A09	4.0
		A10	4.8
		A11	4.3
		A12	4.8
		A13	4.1
CESM 523	Advanced Foundation Design	W89	
		W94	
		W04	4.1
CESM 525	Soil Dynamics and Earthquake Engineering (through Sp90)	Sp85	
		Sp86	
		Sp87	3.77
	Soil Dynamics (W91 and later initially taught as CESM 599)	Sp88	3.93
		Sp89	
		Sp90	
		W91	
		W92	
		W94	
		W95	4.17
		W96	
		W97	4.10
		W98	4.35
		W99	3.79
		W00	4.41
		W01	4.50
		W02	4.59
		W04	4.5
		W06	4.8
		W07	4.8
		W09	4.6
		W12	4.7
CESM 526	Geotechnical Earthquake Engineering	Sp91	
		Sp92	
		Sp93*	
		Sp94	3.97
		Sp95	4.13
		Sp96	4.20
		Sp97	4.42
		Sp 98	4.70
		Sp99	4.41
		Sp00	4.17
		Sp01	3.94
		Sp01	3.9
		Sp02	3.9
		Sp04	4.3
		Sp05	4.3
		Sp06	3.9
		Sp07	4.2

Sp08	4.3
Sp09	4.6
W10	4.3
Sp13	4.7

***taught voluntarily during sabbatical leave**

Short Courses, Workshops, and Other Educational Programs

Seismic Design of Structures (1991) - 4 hrs
Seismic Design of Structures I (1992) - 6 hrs
Seismic Design of Structures II (1993) - 2 hrs
Seismic Design of Structures I (1993) - 6 hrs
Seismic Design of Structures II (1994) - 2 hrs
Civil Engineering P.E. Exam Review Course (1991-present) - 10 hrs/yr
Site Response Analysis (1999) – 16 hrs
Seismic Hazard Analysis (2000) – 16 hrs
Site Response Analysis (2003, Trondheim, Norway) – 12 hrs
Seismic Hazard Analysis (2003, Trondheim, Norway) – 12 hrs
Geodynamics (2005, Oslo, Norway) – 18 hrs
Geotechnical Earthquake Engineering (2007,Olympia, w/UC Berkeley faculty) – 3 hrs
Geodynamics (2007, Oslo, Norway) – 14 hrs
Geotechnical Earthquake Engineering (2007, ROSE School, Pavia, Italy) 36 hrs lecture, 24 hrs tutorial
Site Response Analysis (2008 GeoMo, Rolla, Missouri, w/ Arduino), 4 hrs
Site Response Analysis (2010 Seattle ASCE Geotechnical Group, w/ Arduino), 6 hrs
Geodynamics (2011, Oslo, Norway) – 14 hrs
Site Response Analysis (2013, Oregon State University, w/ Arduino), 4 hrs

Chaired Doctoral Degrees

Student	Dissertation Title (optional)	Current Employer	Year Completed
N. Sivaneswaran	Application of System Identification Techniques to Geotechnical Engineering Problems	WSDOT	1992
S. Punyamurthula	Three-Dimensional Finite Element Analysis of Waste Impoundment Slope Stability	Woodward-Clyde Consultants	1996
J. Horne	Effects of Liquefaction on Pile Foundations	Clemson University	1996
D. Baska	Geotechnical Hazards Caused by Subduction Zone Earthquakes	Zipper-Zeman	2002
C. H. Wang	Residual Strength of Liquefied Soil	Taiwan Construction Research Institute	2004
A. Jones	Geotechnical Uncertainty and Implications for Performance-Based Earthquake Engineering	South Dakota State Univ.	2003

S. Paulsen	Engineering Intensity of Earthquake Ground Motions	Hart-Crowser	2006
R. Mayfield	Performance-Based Evaluation of Liquefaction Potential	Roy Mayfield, Consultant	2007
Y.-M. Huang	Performance-Based Evaluation of Liquefaction Effects	Landau Associates	2008
S. Sideras	Evolutionary Intensity Measures for Improved Evaluation of Liquefaction Hazards	Shannon & Wilson	2014
B. Astaneh	Effects of Liquefaction on Ground Surface Motions		2016
M. Greenfield	Effects of Long-Duration Motions on Liquefaction Hazards		2017

Chaired Masters Degrees

Student	Thesis (yes/no)	Thesis Title if applicable (optional)	Year Completed
Ali Ebrahimi	No	Cold Regions Engineering and Ventilated Foundations	1985
Edward Heavey	Yes	Analysis of Laterally Loaded Piles with Nonlinear Bending Behavior	1987
Jan-Olof Backman	No	Probabilistic Analysis of Laterally Loaded Timber Pile Response	1987
Adrian Won	No	COM625: PC Program for Analysis of Laterally Loaded Piles	1987
Marc McGinniss	No	Design of Geotextile Reinforced Soil Walls for I-90 Preload Fill	1988
Byrl Thompson	No	METRO Tunnel Tieback Investigation	1988
N. Sivaneswaran	Yes	Measurement and Analysis of Membrane Penetration	1988
Nabil Dbaibo	Yes	Investigation of Collapse Surface Behavior of Sands	1989
Percy Marimba	Yes	Frictional Resistance of Geomembranes	1989
Ingunn Jonsdottir	Yes	Stress Redistribution in the Vicinity of Earth Pressure Cells	1989
Peter Sajer	Yes	Evaluation of Bridge Approach Slab Effectiveness	1990
John Horne	No	Nonlinear Finite Element Analysis of Seismic Loading on Peat Deposits	1990
Joe Souther	No	Design of Soil Nailed Walls	1990
Fan-Yie von Laun	No	Evaluation of Dynamic Soil Properties by Strain-Controlled Cyclic Triaxial Testing and Impact Triaxial Testing	1991

Gunilla Franzen	Yes	Efficient Identification of Noncircular Slope Failure Surfaces	1992
Steve Anderson	No	Development of a Large-Scale Cubical Triaxial Apparatus	1993
Matt Craig	Yes	Dynamic Properties of Very Soft, Highly Organic Soils	1993
Lars Hall	Yes	System Identification of Braced Excavations	1994
Matt Smith	Yes	Seismic Stability of Landfills	1995
Troy Parke	Yes	Site-Specific Ground Motions in Washington State due to Great Earthquakes on the Cascadia Subduction Zone	1995
Rich Thuma	Yes	Green's Function Analysis of Pavement Response due to Moving Wheel Loads	1995
Keith Ward	Yes	Effects of Spectral Smoothing on Synthetic Ground Motions	1995
Sanchai Mitaim	Yes	System Identification using FLAC	1997
Doug Lindquist	Yes	Permanent Deformations of Reinforced Slopes under Seismic Loading	1997
Steve Spencer	No	FLAC Analysis of Seismic Response of Pile foundations	1998
Jorgen Jorgenson	No	Development of Liquefaction Web Sire	1998
Marcus Byers	Yes	Development and Verification of a Ring Simple Shear Device	1998
Matt Malgesini	Yes	Newmark Analysis of Liquefaction-Induced Lateral Spreading	2001
Nils Lindwall	Yes	Effects of Three-Dimensional Input Motions on Permanent Slope Displacements	2002
Sarah Paulsen	Yes	Newmark Analysis of Reinforced Slope Deformations During Earthquakes	2002
Brian Bennetts	Yes	Experimental Measurement of Residual Strength of Liquefied Soil	2003
Roy Mayfield	Yes	Experimental Investigation of Dilation-Induced Stiffening of Liquefied Clean and Silty Sands	2003
HannaSofie Jonssen	Yes	Probabilistic Analysis of Slope Stability	2004
Kevin Franke	Yes	Performance-Based Lateral Spreading Hazard Evaluation	2005
Jed Stoken	Yes	Response of Liquefiable Soils to Transient Loading: An Experimental and Analytical Investigation	2006
Aaron Hartvigsen	Yes	Evaluation of Liquefaction Effects on Ground Surface Motions	2006
Scott Chambers	Yes	Experimental Investigation of Liquefaction Response to Transient Loading	2007

Morgan Kolod	Yes	Interpretation of Site Response at Vertical Arrays Affected by Soil Liquefaction	2007
Sola Sigurdarsdottir	Yes	Effects of Spatial Variability on Site Response	2007
Leilani Cruz	Yes	Prediction of Lateral Spreading Using Ground Motion Intensity Measures	2011
Benjamin Blanchette	Yes	Analysis of Pile Group Response to Dynamic Loads for Seismic LRFD Development	2010
Stephanie Abegg	Yes	Identification of Optimal Evolutionary Intensity Measures for Evaluation of Liquefaction Hazards	2010
Sam Sideras	Yes	Centrifuge Testing of Liquefiable Soil Deposits under Transient Loading Conditions	2011
Devjyoti Mitra	Yes	Applicability of Equivalent Linear and Nonlinear Site Response Analyses	2011
Juan Carlos Valdez	Yes	Response of Pile Groups to Earthquake Loading	2012
Andrew Makdisi	Yes	Appropriateness of Sliding Block Model for Prediction of Lateral Spreading Displacements	2014

Other Student Supervision (service on graduate degree committees)

PhD Committees

Student	**Degree**	**Year completed**
Murphy, S.	Ph.D.	1987
Vitayasupakorn, V.	Ph.D.	1986
Shih, Y.	Ph.D.	1987
Rutherford, M.	Ph.D.	1988
Sribalaskandarajah, K.*	Ph.D.	1992
Whipple, Kellin	Ph.D. (Geology)	1992
Schilling, Chris	Ph.D. (Ceramics)	1992
Kinecke, Gail	Ph.D. (Oceanography)	1993
Fischer, G	Ph.D.	1995
Boyle, S.	Ph.D.	1995
Demchak, S.	Ph.D.	1999
Savic, V.	Ph.D. (Mech. Eng.)	1999
John Williams	Ph.D. (Geophysics)	2002
Lee, Wei	Ph.D.	2002
Chang-Ho Choi	Ph.D.	2003
Petek, Kathryn	Ph.D.	2006
Saidin, Fadzilah	Ph.D.	2007
Harney, Michael	Ph.D.	2007
Hyung-Suk Shin	Ph.D.	2007

Wookuen Shin	Ph.D.	2009
Muge Akin	Ph.D. (METU, Ankara, Turkey	2010
Aaron Wech	Ph.D. (Geophysics)	2011
Andrew Delorey	Ph.D. (Geophysics)	2011
Antonio Correia	Ph.D. (Univ. of Pavia, Italy)	2012
Kermit Applegate	Ph.D.	2014
Jake Dafni	Ph.D.	2014
Lorne Arnold	Ph.D.	2014
Matt Gibson	Ph.D.	2014

* supported as Research Assistant

MS Committees

Student	Degree	Year completed
Wang, L.	Thesis	1985
Bethel, A.	Thesis	1986
Squires, G.	Thesis	1986
Pan, Y-W.	Thesis	1986
Brisbine, J.	Thesis	1987
Dowd, J.	Thesis	1987
Adjali, S	Thesis	1988
Crebbin, C.	Non-Thesis	1988
Curran, J.	Non-Thesis	1988
Tan, S.-L.	Thesis	1990
Almond, D.	Non-Thesis	1990
Kimura, H.	Thesis	1990
Setser, D.	Thesis	1990
Xu, J.*	Non-Thesis	1990
Byers, M.	Thesis	1991
Wargo-Levine, K.	Thesis	1991
Wolczko, M.	Non-Thesis	1990
Qi, Bi, Steve*	Thesis (EE)	1991
Hawkinson, Julie	Thesis (EE)	1991
Ward, Robert	Non-Thesis	1991
Wu, Chi Jiu*	Thesis	1992
Beitel, Amy	Thesis	1992
Strout, J.	Thesis	1993
Winters, B.	Thesis	1993
Stauffer, S.	Thesis	1992
Mare, A.	Thesis	1994
Haselton, H.	Thesis	1995
Gallant, E.	Thesis	1995
Duvall, J.	Thesis	1995
Alexander, J.	Thesis	1995
Black, J.	Thesis	1996
Donovan, P.	Thesis	1996
Anderson, E.	Thesis	1997
McElroy, J.	Thesis	1998
Yamaki, M.	Thesis	1998
Perez, A.	Thesis	1999
Vestberg, H.	Thesis	2001
Persson, J.	Thesis	2002

Bailey, T.	Thesis	2004
Upsall, B.	Thesis	2004
Baynes, L.	Thesis	2005
D'Hondt, D.	Thesis	2005
Betts, N.	Thesis	2006

* supported as Research Assistant

Departmental Service

Scholarship Committee, 1987-88
Undergraduate Curriculum Review Committee, 1987-88
Civil Engineering Undergraduate Advisor (1 of 3), 1987-88
Undergraduate Admissions Committee, 1988-92 (Acting Chair, 1992)
GIS Search Committee, 1989-90
Laboratory Management/Safety Committee, 1989-92
Engineering Open House Faculty Coordinator, 1989-90
Engineers Week Presentation over TIE Network (Dean's request), 1990
Civil Engineering Presentations at Bellevue Community College (Chair's request) 1990-91
Contaminant Transport (Massmann) Search Committee, 1990-91
Computational Mechanics (Turkiyyah) Search Committee, 1991-92
Structural Engineering (MacRae) Search Committee, 1993-94
Graduate Program Coordinator, 1993-96
Chair, Computational Geomechanics (Arduino) Search Committee, 1995-96
Ph.D. Program Review Committee, 1996
Strategic Planning Committee, 1997-2000
Civil Engineering Promotion & Tenure Committee, 1998-99
Geotechnical Engineering Graduate Advisor, 1998-2010
Civil Engineering Executive Committee, 2001-2007
Space Committee, Chair, 2002-2003
Strategic Hiring Committee, 2006-2008
Structures and Geotechnical Program Director, 2006-2008
Search Committee, Chair, 2007 – 2008
Hiring Committee, summer, 2008
Search Committee, Chair, 2008-2009
CEE Promotion & Tenure Committee, Interim Chair, 2009-10; Chair, 2013-14
Valle Committee, 2005-present
CEE Merit Review Committee, 2009-2013
CEE Graduate Education Committee, Chair, 2013-14

College Service

Engineering Co-op Committee, 1989-90
CE Chair Search Committee, 1992
Fellowship Committee, 1993-96
PEMM and Technical Japanese Admissions Committee, 1993-96
Engineering Alumni Association Guest Speaker, Los Angeles, 1998

University Service

Earthquake Readiness Advisory Committee, 1991-92
Dean of College of Architecture Search Committee, 1991-92

Community service

Active participant and occasional speaker at local ASCE Geotechnical group meetings and seminars
Member of Cascadia Regional Earthquake Workgroup
Provide information on earthquakes to individual citizens and media as requested
Provide advice, references on various earthquake engineering topics to local consultants and public agencies as requested.
Speaker at local high school

National Service

See Professional Society and Other Service
Also serve as reviewer of papers for numerous journals (approx. 6-7/year) and proposals for NSF and U.S. Geological Survey (approx. 3/year).
Organized three technical sessions for 1999 Seismological Society of America Annual Meeting
Organized session on residual strength for 2008 GEESD conference

All Other Service

Co-organizer, U.S.-Taiwan Workshop on Soil Liquefaction, Hsinchu, Taiwan, November, 2003
Co-organizer, Geotechnical Earthquake Engineering Applications session, Symposium on the Application of Geophysics to Engineering and Environmental Problems, Bellevue, Washington, April, 2006.
Co-organizer, Geohazards – Technical, Economical, and Social Risk Evaluation, Lillehammer, Norway, June, 2006.

Consulting Experience

Converse Consultants, Seattle, Washington, 1985
Rittenhouse-Zeman, Redmond, Washington, 1986
Farmers Insurance, Seattle, Washington, 1989
GeoEngineers, Redmond, Washington, 1993
Shannon & Wilson, Richland, Washington, 1994
Centralia Mining Company, Centralia, Washington, 1993
Converse Consultants NW, Seattle, Washington, 1994
GeoEngineers, Redmond, Washington, 1994
Shannon & Wilson, Seattle, Washington, 1994
StatOil, Stavanger, Norway, 1994
Hart-Crowser, Seattle, Washington, 1995
Washington State Department of Transportation, Olympia, Washington, 1995
Danielson, Harrigan & Tollefson, Seattle, Washington, 1996
Nelson-Couvrette, Woodinville, Washington, 1996,1998
McLaren-Peterson, Inc., Seattle, Washington, 1996
Hart-Crowser, Seattle, Washington, 1997-2002
Shannon & Wilson, Seattle, Washington, 1998-2002, 2008-9

Reid-McClure, Seattle, Washington, 1999
SINTEF, Trondheim, Norway, 2000-2002
Dann & Meacham, Seattle, 2001
KPFF, Seattle, 2001
T.Y. Lin, San Francisco, 2001
MKA, Seattle, 2004-2006
URS, Oakland, 2005-2006
California Strong Motion Instrumentation Program, 2006
William Lettis Associates, 2005-2008
Washington State Department of Transportation, Olympia, Washington, 2008
CH2M Hill, Bellevue, 2009
California Department of Geology, CSMIP, 2008-2009
Seattle Public Utilities, 2011-2013
Tennessee Valley Authority, 2011 – 2013
Engineering Resources Remediation Group, 2012-2013