PEDRO ARDUINO

Curriculum Vitæ

Department of Civil & Environmental Engineering
132 I More Hall
Box 352700
Seattle, WA 98195

Phone: 206-543-6777
Fax: 206-543-1543
Email: parduino@uw.edu

EDUCATIONAL HISTORY

Georgia Institute of Technology, Atlanta, Ga.
Ph.D. in Civil Engineering.
December 1996.
Dissertation: Multiphase Description of Deforming Porous Media by the Finite Element Method.

Georgia Institute of Technology, Atlanta, Ga.
M.S.C.E.
July 1995.

University of Puerto Rico, Mayagüez, P.R.
M.S.C.E.
June 1993.

Universidad Nacional de Córdoba, Córdoba, Argentina.
Civil Engineer (Prof. Degree).
March 1988.

EMPLOYMENT HISTORY

College of Engineering, University of Washington
Seattle, WA, USA
Associate Dean for Infrastructure, 2015 - present

Department of Civil & Environmental Engineering, University of Washington
Seattle, WA, U.S.A
Associate Chair, 2010-2015.

Department of Civil & Environmental Engineering, University of Washington
Seattle, WA, U.S.A
Professor, 2012-present.

Department of Civil & Environmental Engineering, University of Washington
Seattle, WA, U.S.A
Associate Professor, 2003-2012.

Department of Civil & Environmental Engineering, University of Washington
Seattle, WA, U.S.A
Assistant Professor, 1997-2003.

College of Civil and Environmental Engineering, Georgia Institute of Technology
Atlanta, GA, U.S.A.
Research Assistant, 1993-1996.

Department of Civil and Environmental Engineering, University of Puerto Rico
Mayagüez, Puerto Rico
Research Assistant, 1990-1993.

Facultad de Ciencias Exactas Físicas y Naturales, Universidad Nacional de Córdoba
Córdoba, Argentina
Instructor, 1988-1990.

Facultad de Ciencias Exactas Físicas y Naturales, Universidad Nacional de Córdoba
Córdoba, Argentina
Research Assistant, 1988-1990.

AWARDS AND HONORS

- LatinX-Faculty Recognition Event, Faculty honoree, May 10, 2018
- Acta Geotechnica - Best Paper Award 2015 for paper: Simulating granular column collapse using the Material Point Method, by C. Mast, P. Arduino, P. Mackenzie-Helnwein, and G. Miller.
- Egresado Distinguido (Distinguished Alumni), Universidad Nacional de Córdoba, Córdoba, Argentina, April, 2013.
- Outstanding Teacher Award, Department of Civil & Environmental Engineering, University of Washington, Seattle, WA, June 2009.
- J. Ray Bowen Professorship for Innovation in Engineering Education, 2003-2007, College of Engineering, University of Washington.
- Nomination - Outstanding Mentor award, 2003, University of Washington.
- Nomination - Outstanding Teaching award, 2002, 2003, University of Washington.
- Nomination - College of Engineering Teaching award, 2002, 2003, and 2005.
- Chi-Epsilon Faculty Honor Member May, 2001, University of Washington.
- ADSC Civil Engineering Faculty Workshop, 2000, ADSC Fort Collins, CO.
- NSF/IFAI Professor Training Course on Geosynthetics, 1997, Auburn University, Auburn, AL.
- Luther S. Long III Memorial Award in Engineering Mechanics, 1996, Georgia Institute of Technology, Atlanta, GA.
- Sowers Distinguished Graduate Student Award for outstanding achievements in research activities, academic excellence, and contributions to the Geosystems Engineering program, 1995, Georgia Institute of Technology, Atlanta, GA.
- Alfredo Estrada Academic and Student Service Award for Hispanic Graduate Students, 1994-1995, Georgia Institute of Technology, Atlanta, GA.
- Research Fellowship, 1990, CONICET (National Council for Scientific and Technological Research), Córdoba, Argentina.
- Research Fellowship, 1988-1990, SECyT (Science and Technology Department, National University of Córdoba), Córdoba, Argentina.

AFFILIATIONS AND OTHER APPOINTMENTS

- Courtesy Faculty, School of Civil and Construction Engineering, Oregon State University, 2014- present.
- Visiting Professor, Facultad de Ingeniería, Universidad de los Andes, Bogotá, Colombia, 2008, 2010.
- Visiting Professor, Facultad de Ciencias Exactas Físicas y Naturales, Universidad Nacional de Córdoba, Córdoba, Argentina, 2004, 2008.

PUBLICATIONS

Refereed archival journal publications

1. Long Chen, Alborz Ghofrani, and Pedro Arduino, (2021), Remarks on Numerical Simulations of the LEAP-Asia-2019 Centrifuge Tests, Soil Dynamics and Earthquake Engineering, accepted for publication.
2. Ellen Rathje , Clint Dawson, Jamie E. Padgett , Jean-Paul Pinelli , Dan Stanzione , Pedro Arduino , Scott J. Brandenberg , Tim Cockerill, Maria Esteva, Fred L. Haan, Jr. , Ahsan Kareem , Laura Lowes, Gilberto Mosqueda, (2020), Enhancing Research in Natural Hazards Engineering through the DesignSafe Cyberinfrastructure, Frontiers in Built Environments, submitted for publication.
3. Andrew O. Winter, Mohammad S. Alam, S.; Krishnendu Shekhar, Michael R. Motley, Marc O. Eberhard, Andre R. Barbosa, Pedro Lomonaco, Pedro Arduino, and Daniel T. Cox, (2020), Tsunami-Like Wave Forces on an Elevated Coastal Structure: Effects of Flow Shielding and Channeling, J. Waterway, Port, Coastal, Ocean Eng., 2020, 146(4): 0402002, DOI: 10.1061/(ASCE)WW.1943-5460.0000581.
4. Mohammad S.Alam, Andrew O.Winter, GlenGalant, Krishnendu Shekhar, Andre R. Barbosa, Michael R. Motley, Marc O. Eberhard, Daniel T. Cox, Pedro Arduino, and Pedro Lomonaco, (2020), Tsunami-Like Wave-Induced Lateral and Uplift Pressures and Forces on an Elevated Coastal Structure, J. Waterway, Port, Coastal, Ocean Eng., 2020, 146(4): 04020006, DOI: 10.1061/(ASCE)WW.1943-5460.0000562.
5. K. Shekhar, A. Winter, M. S. Alam, P. Arduino, G. Miller, M. R. Motley, M. O. Eberhard, A. R. Barbosa, P. Lomonaco, D. T. Cox, (2020), Conceptual Evaluation of Tsunami Debris Field Damming and Impact Forces, Journal of Waterway, Port and Ocean Engineering, in press.
6. Esteva, M.; Jansen, C.; Arduino, P.; Sharifi-Mood, M.; Dawson, C.N.; Balandrano-Coronel, J., (2019), Curation and Publication of Simulation Data in DesignSafe, a Natural Hazards Engineering Open Platform and Repository. Publications 2019, 7, 51. https://doi.org/10.3390/publications7030051.
7. A. Lemnitzer, P. Arduino, J. Dafni, K. Franke, A. Martinez, J. Mayoral, Chadi El Mohtar, Menzer Pehlivan, M. Yashinsky, (2028), Effects of the September 19, 2017 Mw 7.1 Central-Mexico Earthquake on Critical Infrastructure Systems, Soil Dynamics and Earthquake Engineering, in press.
8. Chen, L., Ghofrani, A., and Arduino, P. (2019). Prediction of leap-ucd-2017 centrifuge test results using two advanced plasticity sand models, Model Tests and Numerical Simulations

of Liquefaction and Lateral Spreading: LEAP-UCD-2017, B. L. Kutter, M. Manzari, and M. Zeghal, eds., Springer, 405–420.

9. W-C Yang, P. Arduino, G. Miller, P. Mackenzie, (2018), Smoothing algorithm for stabilization of the material point method for fluid-solid interaction problems, Computer Methods in Applied Mechanics and Engineering, Vol. 342, 1 Dec 2018, pp 177-199.
10. J.Régnier, L.F.Bonilla, P.Y.Bard, E.Bertrand, F.Hollender, H.Kawase, D.Sicilia, P.Arduino, A.Amorosi, D.Asimaki, D.Boldini, L.Chen, A.Chiaradonna, F.DeMartin, A.Elgamal, G.Falcone, E.Foerster, S.Foti, E.Garini, G.Gazetas, C.Gélis, A.Ghofrani, A.Giannakou, J.Gingery, N.Glinsky, J.Harmon, Y.Hashash, S.Iai, S.Kramer , S.Kontoe, J.Kristek, G.Lanzo, A.di Lernia, F.Lopez-Caballero, M.Marot, G.McAllister, E.D.Mercerat, P.Moczo, S.Montoya-Noguera, M.Musgrove, A.Nieto-Ferro, A.Pagliaroli, F.Passeri, A.Richterova, S.Sajana, M.P.Santisi d'Avila, J.Shi, F.Silvestri, M.Taiebat, G.Tropeano, D.Vandeputte, L. Verrucci, (2018), PRENOLIN: International benchmark on 1D, non-linear site response analysis: Validation phase, Bulletin of the Seismological Society of America, 108(2):pp 876-900, April (2018) (DOI:https://doi.org/10.1785/0120170210).
11. M. Zeghal, N. Goswani,.., P. Arduino, et al, (2018), Stress-strain response of the LEAP-2015 centrifuge tests and numerical predictions, Soil Dynamics and Earthquake Engineering, in press (DOI:https://doi.org/10.1016/j.soildyn.2017.10.014)
12. M. Manzari, M. El Ghoraiby,.., P. Arduino, et al, (2018), Liquefaction Experiment and Analysis Projects (LEAP): Summary of observations from planning phase, Soil Dynamics and Earthquake Engineering, in press (DOI:http://dx.doi.org/10.1016/j.soildyn.2017.05.015).
13. Strahler, A., Stuedlein, A, and Arduino, P., (2018) "Three-Dimensional Stress-strain response and stress dilatancy of well-graded gravel", International Journal of Geomechanics, January 2018, 18(4) DOI: 10.1061/(ASCE)GM.1943-5622.0001118.
14. E. Rathje,.., P. Arduino, et al, (2017), DesignSafe: A New Cyberinfrastructure for Natural Hazards Engineering, ASCE Natural Hazards Review, 2017, 18(3): 060117001.
15. J. Regnier, L. Fabian Bonilla,.., P. Arduino, et al, (2016), International benchmark on numerical simulations for 1D, non-linear site response (PRENOLIN): Verification phase based on canonical cases, Bulletin of the Seismological Society of America, Vol. 106, No. 5, pp. 2112-2135, October 2016.
16. A. Ghofrani, and P. Arduino, (2016), Prediction of LEAP Centrifuge Test Results Using a Pressure-Dependent Bounding Surface Constitutive model, Soil Dynamics and Earthquake Engineering, http://dx.doi.org/10.1016/j.soildyn.2016.12.001.
17. C. R. McGann, Alborz Ghofrani and P. Arduino, (2016), Influence of Modeling Decisions on 3D Finite Element Analysis of Two Existing Highway Bridges Subjected to Lateral Spreading, Transportation Research Record, No 2592, TRB, WA D.C., 2016, pp 143-150, DOI:10.3141/2592-16.
18. A. Strahler, A. W. Stuedlein, P. Arduino, (2016), Stress-strain response and dilatancy of sandy gravel in triaxial compression and plane-strain, Journal of Geotechnical and Geoenvironmental Engineering, Vol 142, Issue 4, 04015099- pp. 1-11.
19. C. R. McGann, and P. Arduino, (2015), Numerical assessment of the influence of foundation pinning, deck resistance, and 3D site geometry on the response of bridge foundations to demands of liquefaction-induced lateral soil deformation , Soil Dynamics and Earthquake Engineering Journal, 79, Part B, pp 379-390.

20. C. Mast, P. Arduino, G. Miller, and P. Mackenzie-Helnwein, P. Arduino, (2015), Simulating granular column collapse using the Material Point Method, Acta Geotechnica, Vol. 10, Issue 1, pp 101-116.
21. C. R. McGann, P. Arduino, and P. Mackenzie-Helnwein, (2015), Stabilized single-point 8-node hexahedral element for dynamic analysis of fluid saturated porous media, Computers and Geotechnics, Vol. 66, pp 126-141.
22. C. R. McGann, and P. Arduino, (2014), Assessment of three-dimensional foundation pinning effects during lateral spreading at the Mataquito river bridge, ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 140, Issue 8, pp 04014037-1 - 10.
23. C. Mast, P. Arduino, G. Miller, and P. Mackenzie-Helnwein, P. Arduino, (2014), Avalanche and landslide simulation using the material point method: flow dynamics and force interaction with structures, Computational GeoSciences, Vol. 18, Issue 5, pp 817-830.
24. M. M. Chiaramonte, P. Arduino, D. E. Lehman, and C. W. Roeder, (2013), Seismic analyses of conventional and improved marginal wharves, Earthquake Engineering and Structural Dynamics, 42: pp.1435-1450.
25. C. R. McGann, P. Arduino, and P. Mackenzie-Helnwein, (2012), Stabilized single-point 4-node quadrilateral element for dynamic analysis of fluid saturated porous media, Acta Geotechnica: Vol. 7, Issue 4, 2012, pp. 297-311.
26. C. Mast, P. Mackenzie-Helnwein, P. Arduino, G. Miller, and W. Shin, (2012), Mitigating kinematic locking in the Material Point Method, Journal of Computational Physics, Vol. 231, Issue 16, June 2012, pp. 5351-5373.
27. P. Arduino, P. Mackenzie-Helnwein, G. Miller and C. Mast, (2012), Aplicación y Mejoras al Método MPM para el Análisis de Desprendimientos y Movimientos de Tierra, Revista Internacional de Desastres Naturales, Accidentes e Infraestructura Civil, Vol. 12, No. 1, Mayo 2012, pp. 5-9.
28. J. Bray, K. Rollins, T. Hutchinson, R. Verdugo, C. Ledezma, D. Assimaki, G. Mylonakis, G. Montalva, P. Arduino, S. Olson, R. Kayen, Y. Hashash, and G. Candia, (2012), Effects of Ground Failure on Buildings, Ports, and Industrial Facilities, Earthquake SPECTRA, Vol. 28, Nº S1, June 2012, pp s97- s118.
29. C. Ledezma, S. Ashford, T. Hutchinson, R. Moss, P. Arduino, R. Kayen, J. Bray, S. Olson, and Y. Hashash, (2012), Effects of Liquefaction-Induced Ground Failure on Bridges, Roads, and Railroads, Earthquake SPECTRA, Vol. 28, Nº S1, June 2012, pp s119 – s143.
30. Stuedlein, S. Kramer, P. Arduino, and R.D. Holtz, (2012), Reliability of Spread Footing Performance in Desiccated Clay, ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 138, No. 11, November 2012, pp1301-1313.
31. Stuedlein, S. Kramer, P. Arduino, and R.D. Holtz, (2012), Geotechnical Characterization and Random Field Modeling of Desiccated Clay, ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 138, No. 11, November 2012, pp 1314-1325.
32. R. McGann, P. Arduino, and P. Mackenzie-Helnwein, (2012), Simplified Procedure to Account for a Weaker Soil Layer in Lateral Load Analysis of Single Piles, ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 138, No.9, pp 1129-1137.
33. M. Mast, P. Mackenzie-Helnwein, P. Arduino, and G.R. Miller (2011), Representing Arbitrary Bounding Surfaces in the Material Point Method using a Dual-Grid Approach, International Journal for Numerical Methods in Engineering, under review.

34. R. McGann, P. Arduino, and P. Mackenzie-Helnwein, (2011), Applicability of Conventional *p-y* Relations to the Analysis of Piles in Laterally Spreading Soils, ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 137, No 6, June 1, 2011, pp.557-567.
35. W. Shin, G. R. Miller, P. Arduino, and P. Mackenzie-Helnwein (2010), Dynamic Meshing for Material Point Method Computations, International Journal of Computational and Mathematical Sciences,4:8, pp. 379-387 2010.
36. P. Mackenzie-Helnwein, Arduino, P., Shin, W., Moore, J.A., and Miller, G.R., (2009), Modeling Strategies for Multiphase Drag Interactions Using the Material Point Method, International Journal for Numerical Methods in Engineering, Vol. 83, Issue 3, pp. 295-322.
37. Ranf, R. Shin, H., Eberhard, M., Arduino, P., and Kramer, S.L. (2009), "Fixed-Base Approximations for PBEE of Bridges on Drilled Shafts", Earthquake Spectra, accepted.
38. Hoyos, L. R., Arduino, P., (2008), Implicit Algorithm for Modeling Unsaturated Soil Response in Three-Invariant Stress Space, ASCE International Journal of Geomechanics, Volume 8, Number 4, pp.266-273.
39. Choi C.H., and Arduino, P., (2008) "Development of a True Triaxial Apparatus for Sands and Gravels", ASTM Geotechnical Testing Journal, Volume 31, Issue 1, pp 1-13, January 2008.
40. Francisca, F., Arduino, P., (2007), Immiscible Displacement Model for Anisotropic and Correlated Porous Media, International Journal of Goemechanics, Volume 7, Issue 4, pp. 311-317, July/August 2007.
41. Miller, G., Arduino, P., Jang, J., and Choi, C.H. (2003), Localized Tensor-Based Solvers for Interactive Finite Element Applications Using C++ and Java, Computers & Structures, Vol. 81/7, pp. 423 - 437.
42. Hoyos, L. R., Macari, E. J, and Arduino, P. (2003) Constitutive Modeling of an Unsaturated Soil under Axisymmetric Stress States using a Suction Controlled Cubical Testing Device, International Journal of Plasticity, Vol. 19, No. 10, pp. 1481-1515.
43. Arduino, P. and E. J. Macari (2002) Closure to: Numerical Analysis of Geomaterials within the Theory of Porous Media, ASCE Journal of Engineering Mechanics, Vol. 128, Issue 6, p. 708, June 2002.
44. Kramer, S. L., P. Arduino, A. Jones, and M. Eberhard (2002), Uncertainty Analysis for a Seismic Warning System, TRB Record No. 1801 – Soil Mechanics 2002, pp. 112-121.
45. Arduino P., G. R. Miller, and Ayokunle Ogunrinde, (2002) Live Modeling of 1-D Wave Propagation in Layered Soil Media, Computer Applications in Engineering Education, Vol 9, No. 4, pp. 248-258.
46. Fowler, J. A., Arduino, P., and Holtz, R. D. (2001) Approximate Displacement Influence Factors for Elastic Shallow Foundations - ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol 127, No 1, pp. 99-102.
47. Arduino, P. and E. J. Macari (2001) Numerical Analysis of Geomaterials within the Theory of Porous Media, ASCE Journal of Engineering Mechanics, Vol. 127, No. 2, pp. 167--175.
48. Arduino, P. and E. J. Macari (2001) Implementation of a Porous Media Formulation for Geomaterials, ASCE Journal of Engineering Mechanics, Vol. 127, No. 2, pp. 157-166.
49. Wyatt, T., Arduino, P, and Macari, E. J. (2000) Assessment of a Virtual Laboratory for Geotechnical Engineering Education, Computers in Education Journal, ASEE Computers in Education Division, Vol. X, No. 2, April-June 2000, pp.27-35.

50. Arduino, P. and E. J. Macari (1998) Numerical Modeling of Spread Footings at Bridge-Embankment Interfaces, Transportation Research Record No 1633, pp. 61-67.
51. Arduino, P., A. Op den Bosch and E. J. Macari (1997) Geotechnical Triaxial Soil Testing within a Virtual Environment, ASCE Journal of Computing, Vol. 11, No. 1, pp.44-47.
52. Macari, E. J., P. Arduino and S. Weihe S., (1997) Implicit Integration of Elasto-Plastic Constitutive Models for Frictional Materials with Highly Non-Linear Hardening Functions, International Journal of Mechanics of Cohesive-Frictional Materials, Vol. 2, pp.1-29.
53. Macari, E. J. and P. Arduino, (1995) Overview of `State-of-the Practice', Modeling of Overconsolidated Clays, Transportation Research Record No 1479 - Engineering Properties and Practices in Overconsolidated Clays, pp.51-60.

Conference proceedings and other non-journal articles

- ***Fully refereed publications***

1. P. Arduino, Modeling Liquefaction Effects - From lateral spreading to soil-structure interaction, Proceedings of VII International Conference on Earthquake Geotechnical Engineering, Rome, Italy June 17-20, 2019.
2. P. Arduino, On the Modeling of Soils after the Onset of Liquefaction, Proceedings of GEESD-V Conference, UT Austin June 10-13, 2018, https://doi.org/10.1061/9780784481479.001.
3. P. Arduino, Numerical Methods in Geotechnical Earthquake Engineering, Proceedings of ATTI Conferenze Di Geotecnica Di Torino XXV Ciclo, Analisi e Progetto Delle Opere Geotecniche in Zona Sismica, Torino, Nov. 8,9, 2018.
4. E Rathje, S. Brandenberg, J. Padgett, L. Lowes, G. Mosqueda, P. Arduino, M. Eslami, N. Marafi, Enhancing Earthquake Engineering Research through the DesignSafe Cyberinfrastructure, 11th US National Conference on Earthquake Engineering, June 25-29, 2018, Los Angeles, CA.
5. M. Esteva, C. Jansen, P. Arduino, S. Kulasekaran, J. Balandrano, Curation and Publication Pipelines for Simulation Datasets in DesignSafe-CI, an Open Platform and Repository for Natural Hazards Engineering Data, 13th International Open Repositories Conference, June 4-7, 2018, Bozeman, MT.
6. W.C. Yang, K. Shekhar, G. Miller, P. Arduino, and P. Mackenzie-Helnwein, Modeling tsunami induced debris impacts on bridge structures using the Material Point Method, 1st International Conference of the Material Point Method for Modeling Large Deformation and Soil-Water-Structure Interaction, 10-13 January 2017, Delft, The Netherlands.
7. W.C. Yang, G. Miller, P. Arduino, and P. Mackenzie-Helnwein, A new enhanced smoothing algorithm for MPM enabling the analysis of hydrodynamic impact problems involving embedded solids, 1st International Conference of the Material Point Method for Modeling Large Deformation and Soil-Water-Structure Interaction, 10-13 January 2017, Delft, The Netherlands.
8. A. Ganji, Q. Li, P. Arduino, and A. Stuedlein, Assessment of laterally-loaded normal and high strength steel-reinforced drilled shafts using 1D and 3D numerical methods, 16th World Conference on Earthquake Engineering, 16WCEE 2017, Santiago de Chile, January 9-13, 2017.

9. K. Shekhar, W-C Yang, P. Arduino, P. Mackenzie-Helnwein, and G. Miller, Material Point Method analysis of hydrodynamic impact problems involving embedded solids, ENIEF 2016 XXII Congreso sobre metodos numericos y sus aplicaciones, Cordoba, Argentina, Nov. 8-11, 2016.
10. A. Ghofrani, Chris McGann, and P. Arduino, Numerical evaluation of forces on piled bridge foundations in laterally spreading soil, EMI 2016 & PMC 2016, Vanderbilt University, May 22-25, 2016.
11. G. McAllister, M. Taiebat, A. Ghofrani, L. Chen, and P. Arduino, "NonLinear Site Response Analyses and High Frequency Dilation Pulses", Proceedings of GeoQuebec 2015, September 2015.
12. P. Arduino, W.C. Yang, P. Mackenzie-Helnwein, G. Miller, Application of the Material Point Method (MPM) to the Simulation of Flow-Like Events and their Interaction with the Built Environment, 15th Panamerical Conference on Soil Mechanics and Geotechnical Engineering (PCSMGE 2015), Nov 15-18, 2015, Buenos Aires, Argentina.
13. W.C. Yang, P. Arduino, R. Wang, P. Mackenzie-Helnwein, G. Miller, Tsunami Modeling Using the Material Point Method (MPM) and Validation against Experiments, OSU Tsunami Workshop, Dec 10-12, 2014, Corvallis, OR.
14. C.R. McGann, and P. Arduino, "Influence of foundation pinning and deck resistance on the response of a Chilean bridge abutment to lateral spreading", New Zealand-Japan Workshop on Soil Liquefaction during Recent Large-Scale Earthquakes, University of Auckland, New Zealand, Dec. 2-3, 2013, Paper No. 12.
15. S.J. Dyke, B. Stojadinovic, P. Arduino, M. Garlock, N. Luco, J.A. Ramirez, S. Yim, and W. Song, "The 2020 Vision Workshop for Earthquake Engineering Research in the U.S.A.", International Conference on Earthquake Engineering Research Challenges in the 21st Century, Harbin, China, May 18-21, 2012
16. P. Arduino, P. Mackenzie-Helnwein, and G.R. Miller, "Modeling Multi-Scale Flow Using the Material Point Method", Multiscale and Multiphysics Processes in Geomechanics", R.I Borja (Ed.), Stanford University, June 23-25, 2010, pp.133-136.
17. C.M. Mast, P. Mackenzie-Helnwein, P. Arduino, and G.R. Miller, "Landslide and Debris-Flow Induced Static and Dynamic Loads on Protective Structures", Multiscale and Multiphysics Processes in Geomechanics", R.I Borja (Ed.), Stanford University, June 23-25, 2010, pp.169-172.
18. S. Dyke, B. Stojadinovic, P. Arduino, M. Garlock, N. Luco, J. Ramirez, and Solomon Yim, "2020 Vision for earthquake Engineering Research", 9th US National and 10th Canadian Conference on Earthquake Engineering: Research Beyond Borders, Toronto, July 25-29, 2010.
19. C. McGann, P. Arduino, and P. Mackenzie-Helnwein (2010), "Lateral Resistance Reduction for Static Analysis of Lateral Spreading", Joint Conference Proceedings, 7th International Conference on Urban Earthquake Engineering (7CUEE) & 5th International Conference on Earthquake engineering, March 3-5, 2010, Tokyo Institute of Technology, Tokyo, Japan.
20. Kramer, S.L., Arduino, 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 – from Case History to Practice, IS-TOKYO 2009, 15-18 June 2009, Invited Theme Lecture Paper, pp. 107-120.

21. P. Arduino, P. Mackenzie-Helnwein, and P. I. Lam "Estudio de Interacción Suelo-Pilote Sometidos a Cargas Laterales Mediante OpenSees", III Conferencia Sudamericana de Ingenieros Geotécnicos Jóvenes - Desafíos y Avances de la Geotecnia Joven en Sudamérica, Cordoba, Argentina, Ed. F. M. Francisca, pp 283-286.
22. Lam, I., Arduino, P., Mackenzie-Helnwein. P. (2009), "OpenSees Soil-Pile Interaction Study under Lateral Spread Loading", Contemporary Topics in In-Situ Testing, Aanalysis, and Reliability of Foundations, Editors: M.Iskander, D. Laefer, and M. Hussein, pp 206-213.
23. P. Mackenzie-Helnwein, P. Arduino, W.-K. Shin, G.R. Miller. Modeling Framework for Fluid-Solid Mixtures using Distinct Phases and the Material Point Method, presented at at the 22nd International Congress of Theoretical and Applied Mechanics (ICTAM2008), Adelaide, Australia, August 2008.
24. Shin, H., Arduino, P., Kramer, S.L., and Mackie, K. "Seismic Response of a Typical Highway Bridge in Liquefiable Soils", ASCE Geotechnical Earthquake Engineering and Soil Dynamics IV Congress (GEESD), Sacramento, CA, May 19-23, 2008.
25. Arduino, P., Petek, A.K., and Mackenzie-Helnwein, P. "Three-dimensional beam-solid contact element formulation for analysis of pile-soil interaction", ENIEF 2007 XVI Congreso sobre Metodos Numericos and sus Aplicaciones, Octubre 2-7, 2007, Cordoba, Argentina.
26. Shin, H., Arduino, P., and Kramer, S.L., "Performance-Based Evaluation of Bridges on Liquefiable Soils", ASCE Structures Congress, Long Beach, CA, May 16-18, 2007.
27. Ilankatharan, M., Kutter, B.L., Shin, H-S., Arduino, P., Kramer, Johnson, N., Sasaki, T., "Comparison of Centrifuge and 1g Shake Table Models of a Pile Supported Bridge Structure", International Conference on Physical Modeling Geotechnics, Honk-Kong University of Science and Technology, August 4-6, 2006.
28. Petek, K., Arduino, P., and Mackenzie, P., "3-D Beam-to-Solid Contact Formulation for the Simulation of Soil-Pile Structure Interaction Problems", 8th World Congress on Computational Mechanics, July 15-17, 2006.
29. Ranf, R. T., Shin, H.S., Eberhard, M.O., Arduino, P., Kramer, S., "Experimentally Based Evaluation of Soil-Foundation-Structure Interaction for a Reinforced Concrete Bridge", 8th National Conference on Earthquake Engineering commemorating 100th Anniversary of 1906 S.F. Earthquake, San Francisco, CA, April 18-22, 2006.
30. Shin, H.S., Ilankatharan, M., Arduino, P., Kramer, S., Kutter, B., "Experimental and Numerical Analysis of Seismic Soil-Pile-Structure Interaction of a Two-Span Bridge", 8th National Conference on Earthquake Engineering commemorating 100th Anniversary of 1906 S.F. Earthquake, San Francisco, CA, April 18-22, 2006.
31. Shin, H.S., Ilankatharan, M., Arduino, P., Kramer, S., Kutter, B., "Seismic Soil-Foundation-Structure Interaction of Oriented Bridge Bents", 8th National Conference on Earthquake Engineering commemorating 100th Anniversary of 1906 S.F. Earthquake, San Francisco, CA, April 18-22, 2006.
32. Hoyos, L.R., and Arduino, P. (2005). "Modeling response of unsaturated silty sand in three-invariant stress space". Proc., Third MIT Conference on Computational Fluid and Solid Mechanics, Elsevier Science, June 14-17, 2005, Boston, Massachusetts, Ed: K.J. Bathe, pp. 256-260.
33. Petek, K., Arduino, P., and Holtz, R.D., "Three-Dimensional Model Development of Construction Defects in Drilled Shafts", 11th International Conference of International

Association of Computer Methods and Advances in Geomechanics (IACMAG), Italy, June 19-24, 2005.

34. Hoyos, L., Arduino, P., "Simulation of Unsaturated Soil Behavior in Three-Invariant Stress Space", McMat EM 2005, LSU, Baton Rouge, Louisiana, June 2005.
35. Shin, H., Arduino, P., "Numerical Analysis of Seismic Pile-Soil-Structure Interaction Problem using OpenSees", McMat EM 2005, LSU, Baton Rouge, Louisiana, June 2005.
36. Arduino, P., Kramer, S. L,, Li, P., Horne, J. "Seismic Performance and Simulation of Pile Foundations in Liquefied and Laterally Spreading Ground", ASCE-GSP 145, Proceedings of the US-Japan Workshop, Editors Boulanger, R., and Tokimatsu, K., Davis, California March 16-18, 2005.
37. Petek, K., Mackenzie, P., and Arduino, P., "Two- and Three-Dimensional Contact Element Implementation for Geotechnical Applications", McMat EM 2005, LSU, Baton Rouge, Louisiana, June 2005.
38. Arduino, P., Choi, C.H., and Harney, M., "Simulation of Complex Stress-Paths using the Manzari-Dafalias Two-Surface Bounding Surface Model", McMat EM 2005, LSU, Baton Rouge, Louisiana, June 2005.
39. Arduino, P., Choi, C.H., and Harney, M., "Two-Surface Soil Constitutive Model Calibration for Coarse Granular Materials", ASCE GSP 139, Proceedings of the sessions of the Geo-Frontiers, Editors Yamamuro, J., and Kaliakin, V., Austin Texas, January 24-26 2005.
40. Choi, ChangHo. and P. Arduino, "Comportamiento Experimental de Gravas Sometidas a Cargas Cíclicas", SINERGIA 2004-XVII Congreso Argentino de Mecanica de Suelos e Ingeniearia Geotecnica – Universidad Nacional de Cordoba, Cordoba, Argentina - October 18-23, (2004).
41. Choi, ChangHo. and P. Arduino, "Behavioral Characteristics of Gravelly Soils under General Cyclic Loading Conditions ", International Conference on "Cyclic Behaviour of Soils and Liquefaction Phenomena, Bochum – Germany, 31 March – 02 April (2004).
42. Wood, S., Anagnos, T., Arduino, P., et al, "Using NEES to Investigate Soil-Foundation-Structure Interaction", 13th World Conference on Earthquake Engineering, Vancouver, B.C., Canada, August 1-6, 2004, paper No. 2344.
43. Yeh, H., Tonkin, S., Heller, E., Arduino, P., Kato, F., and Sato, S. (2004). "Mechanisms of scour induced by tsunami runup". Proceedings of Second International Conference on SCOUR and EROSION, Singapore. Vol. 2, 464–471.
44. Hoyos, L., P. Arduino, and E. Macari, "Modeling unsaturated soil response on deviatoric □-plane", 4th International Workshop on "Applications of Computational Mechanics in Geotechnical Engineering", Ouro Preto – Brazil, August 17-20, (2003).
45. Laureano R. Hoyos, Jr., Pedro Arduino, Emir J. Macari , "Modeling elasto-plastic behavior of unsaturated soil using a controlled suction cubical test cell", In: Constitutive Modeling of Geomaterials, CRC Press, Selected Contributions from Frank L. DiMaggio's Symposium, Ed: Hoe I. Ling, 165-172 (2003).
46. Laureano R. Hoyos, Jr., Pedro Arduino, Emir J. Macari , Experimental and Computational Modeling of Elasto-Plastic Constitutive Behavior of An Unsaturated Soil Under True Triaxial Stress States, Proceedings of the 15th ASCE Conference in Engineering Mechanics, New York, June 3 – 5, 2002.

47. Kramer, S. L., and Arduino, P., Constitutive Modeling of Cyclic Mobility and Implications for Site Response, Proceedings of the 2th International Conference on Earthquake Geotechnical Engineering, Laboratorio Nacional de Engenharia Civil, Lisboa, Portugal, June 21-25, 1999, pp 1029-1034.
48. Sfriso, A., Arduino, P. and Macari, E. J., A Constitutive Equation for Sands based on Non-Associative Plasticity and the Stress-Dilatancy Theory, Proceedings of the 5th U.S. National Congress on Computational Mechanics, University of Colorado at Boulder, Boulder, CO, July 1999.
49. Wyatt, T. R., Arduino, P. and Macari, E. J., Assessment of a Virtual Laboratory for Geotechnical Engineering, Proceedings of the 1999 ASEE Annual Conference, Charlotte, NC, June 20-23 1999.
50. Hoyos, L. R., Arduino, P. and Macari, E. J., An Implicit Integration Scheme for Modeling Constitutive Behavior of Unsaturated Soils, Proceedings of the 99 International Conference on Plasticity, Plasticity 99, Cancun, Mexico, January 1999.
51. Arduino, P. and Macari, E. J., Numerical Study of Geomaterials in the Light of Modern Theories of Porous Media, Proceedings of the Biot Conference on Poromechanics, pp. 3-10, Universite Catholique de Louvain, Louvain-la-Neuve, Belgium, September 1998.
52. Hoyos, L., Arduino, P. and Macari, E. J., Constitutive Modeling of Partially Saturated Soils, Proceedings of the 6th International Symposium on Plasticity and Its Current Applications, Juneau, Alaska, pp 311-312, 1997.
53. Arduino, P. and Macari, E. J., Multi-Phase Flow in Deforming Porous Media by the Finite Element Method, Proceedings of the eleventh Conference in Engineering Mechanics, American Society of Civil Engineers, Florida Atlantic University Center, Fort Lauderdale, FL, Vol. I, pp 420-425 (1996).
54. Arduino, P., E. J. Macari and M. Gemperline, Load-Settlement Prediction of Footings on Steep Slopes, Proceedings of the Specialty Conference on Vertical and Horizontal Deformations of Foundations and Embankments – Settlements' 94, American Society of Civil Engineers, Texas A&M, College Station, TX, pp.1385-1399, (1994).
55. Macari, E. J. and P. Arduino, Elasto-Plastic Characterization of Granular Materials with Implications for Slope Stability, Proceedings of the NSF Structures, Geomechanics, and Building Systems Grantee's Conference, National Science Foundation, San Juan, PR, pp. 26-29, (1992).

Complete books written

Books edited

1. R. J. Finno, Y. M.A. Hashash, and P Arduino (Eds.), "Earth Retention Conference 3", Proceedings of the 2010 Earth Retention Conference, ASCE Geotechnical Special Publication, No. 208, August 2010.

Abstracts, letters, non-refereed papers, technical reports

2. Long Chen, P. Arduino, Implementation, Verification, and Validation of PM4Sand Model in OpenSees, PEER Report No. 2020/XX , submitted and under review.
3. P. Arduino, Long Chen, C. McGann, Estimation of Shear Demands on Rock Socketed Drilled Shafts subjected to Lateral Spreading, PEER Report No. 2018/06.

4. P. Arduino, C.R. McGann, and A. Ghofrani, Numerical Evaluation of Forces on Piled Bridge Foundations in Laterally Spreading Soil, Final Project Report, WA-RD 874.1, April 2017.
5. P. Arduino, C.R. McGann, and A. Ghofrani, Design procedure for bridge foundations subject to liquefaction-induced lateral spreading, Final Project Report, WA-RD 874.2, April 2017.
6. A. Stuedlein, Q. Li, P. Arduino, and A. Ganji, Behavior of Drilled Shafts with High-Strength Reinforcement and Casing, Final Project Report, PacTrans, 2016.
7. P. Arduino, C. McGann, and L. Chen, Estimation of Shear Demands on Rock-Socketed Drilled Shafts subjected to Lateral Loading, PEER Report 2015.
8. C. McGann, P. Arduino, and P. Mackenzie-Helnwein, "Development of Simplified Analysis Procedure for Piles in Laterally Spreading Layered Soils", PEER Report 2012/05.
9. J. Meneses and P. Arduino, "Preliminary Observations of the Effects of Ground Failure and Tsunami on the Major Ports of Ibaraki Prefecture", Quick Report 3: GEE Association Report No. GEER-025-c, May 17, 2011.
10. P. Arduino, P. Keller, and R.D. Holtz, "Evaluation of Ko and Gmax for Kaolin Clays Slurries", Pacific North West National Lab (PNNL) Report, September 2010.
11. S. Dyke, B. Stojadinovic, P. Arduino, et al., "Vision 2020: An Open Space Technology Workshop on the future of earthquake engineering" A Report on the NSF-Funded Workshop, September 2010.
12. P. Arduino et al., Geo-engineering Reconnaissance of the Maule, Chile Earthquake, Editors: J. Bray and D. Frost, GEER Association Report No. GEER-022, Version 2, May 25, 2010.
13. P. Arduino, P. Mackenzie-Helnwein, and K. You S, "Evaluation of KICT Tunnel Lining System using Advanced Numerical Analysis, KICT Report 2010.
14. S. Kramer, P. Arduino, and HyungSuk Shin, "Performance-Based Evaluation of Bridges on Liquefiable Soils using OpenSees" PEER Report 2008, NSF Award EEC-9701568, August 2008.
15. I.P. Lam, P. Mackenzie-Helnwein, P. Arduino. OpenSees Soil-Pile Interaction Study under Lateral Spread Loading. PEER Report 2008, NSF Award EEC-9701568, November 2007
16. Evaluation and Characterization of Uncertainty in Geotechnical Parameters (with S. L Kramer), final report prepared for PEER NSF, PEER Report 2002/16, pp 100, Dec 2002.
17. Influence of Long-Duration Motions on Expected Performance (with M. Eberhard), final report prepared for PEER-NSF, March 2003.
18. Seismic Instrumentation System for Warning and Rapid Recovery – Pilot Study (with M. Eberhard, and S. L Kramer), WADOT Report No. WA-RD 520.1, pp. 98, September 2001.
19. Dynamic Stiffness of Piles in Liquefiable Soils, (with S. L. Kramer), WADOT Report No. WA-RD 514.1, pp 149, July 2001
20. Elasto-Plastic Constitutive Driver for Geomaterials, final report prepared for the Royalty Research Fund, Grant RRF #1595, University of Washington, October 1999.
21. Development and Implementation of a General Constitutive for Partially Saturated Soils, prepared for the Boeing Endowment for Excellence, University of Washington, October 1997.

22. Advanced Concepts of Soil Mechanics as Applied to Highway Construction, prepared for the Puerto Rico Transportation Technology Transfer Center (English and Spanish versions), Mayagüez, PR, 1992.
23. Soil-Structure Interaction on Buildings subjected to Seismic Effects, Annual Report SECyT, Córdoba, Argentina, 1990.

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

- DrLayer, a computer program designed to provide students a simulation/visualization environment for studying linear and nonlinear wave propagation behavior in layered soil media. http://octavia.ce.washington.edu/DrLayer/index.html.

- OpenSees Geotechnical examples. A complete set of examples on the use of OpenSees for geotechnical applications. http://opensees.berkeley.edu/wiki/index.php/Examples.

OTHER SCHOLARLY ACTIVITY

Invited lectures and seminars

1. P. Arduino, Keynote Lecture Implementation, verification and validation of a bounding surface constitutive model for site response analysis, Proceedings of XVI Panamerican Conference on Soil Mechanics and Geotechnical Engineering, Cancun, Mexico, Nov 17-20 2019.
2. P. Arduino, Keynote Lecture: Modeling Liquefaction Effects – from lateral spreading to soil-structure interaction, VII International Conference on Earthquake Geotechnical Engineering, Rome, Italy June 17-20, 2019.
3. Pedro Arduino, Keynote Lecture: Numerical Methods in Geotechnical Earthquake Engineering, XXV 2018 Conferenze Di Geotecnica Di Torino, Nov. 8,9, 2018.
4. P. Arduino, Keynote Lecture: On the modeling of soils after the onset of liquefaction", Geotechnical Earthquake Engineering and Soil Dynamics V-GEESD 2018, University of Texas at Austin, June 10-13, 2018.
5. ASCE Waterfront Engineering – Pile Design for Seismic Regions – 2018 Spring 1-Day Short Course, Invited speaker, April 13, 2018
6. P. Arduino, Keynote Lecture: Recent advances in modelling soil-structure interaction using OpenSees", First European Conference in OpenSees, OpenSees Days Europe, Porto, Portugal, June 19-20, 2017.
7. P. Arduino, "Keynote Lecture: Avalanche and landslide simulation using the Material Point Method: Flow dynamics and force interaction with structures, MPM 2017, Delft, The Netherlands, January 11, 2017.
8. P. Arduino, "DesignSafe-CI – New Cyber-Infrastructure Resources for High-Performance Simulation in Natural Hazards Engineering", PEER Annual Meeting, Jan 29, 2016, Berkeley, CA.

9. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees Days 2016, May 19-20, 2016, Berkeley, CA.
10. P. Arduino, M Beaty and H. Ellis, Short Course:Soil-Structure Numerical Modeling in Geotechnical Practice, ASCE Seattle, Section Geotechnical Group, Best Western Executive, Seattle, WA, Jan 23, 2015.
11. G. McAllister, A. Ghofrani, L. Chen, M. Taiebat, P. Arduino, Nonlinear Site Response Analysis for Sendai Site v- Exercise 2, PRENOLIN Meeting, April 9-10, 2015, Nice, France
12. P. Arduino, Verification and Validation in Geotechnical Modeling, LEAP GWU 2015 Workshop, Jan 26, 2015, Washington DC.
13. P. Arduino, Numerical Modeling of Post Liquefaction Effects, National Research Council (NRC) Liquefaction Committee Meeting #4, July 14, 2014.
14. P. Arduino, “Assessment of three-dimensional foundation pinning effects during lateral spreading”, Invited speaker in seminar on Practical Deep Foundation Design and Construction for Seismic and Lateral Loads, Deep Foundations Institute (DFI), Seattle, WA, April 22, 2014.
15. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees Days 2014, September 25-26, 2014, Berkeley, CA.
16. P. Arduino, “Consequences of liquefaction, analytical models”, Speaker and panelist in workshop on State of the Art and Practice in Earthquake Induced Soil Liquefaction Assessment, National Research Council (NRC), Tempe, AZ, March 10-11, 2014.
17. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees on the Road, Oregon State University, OR, November 21, 2013.
18. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees Days 2013, August, 2013, Berkeley, CA.
19. P. Arduino, “Experiencias en la Modelación Numérica de Problemas Geotécnicos”, Seminario de egresados distinguidos de la Facultad de Ciencias Exactas Físicas y Naturales, Festejos por los 400 años de la Universidad Nacional de Córdoba, Córdoba, Argentina, April 11, 2013.
20. P. Arduino, “Application of the Material Point Method (MPM) to the evaluation of landslide and debris flow induced-loads on protective structures”, Department of Structural Engineering, University of California at San Diego, February 23, 2012.
21. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees Days 2012, August, 2013, Berkeley, CA.
22. P. Arduino, “Development of simplified analysis procedure for piles in laterally spreading soil”, Geotechnical Lecture Series, Oregon State University, January, 11, 2012,
23. P. Arduino, “Geotechnical Earthquake Engineering Seminar”, ASCE Puerto Rico Section, Polytechnic University of Puerto Rico, San Juan, P.R., Sep 2, 2011.
24. P. Arduino, “Simplified Methodologies for Assessment and Design of Piles Affected by Lateral Spreading Ground”, PEER Annual Metting, Sep 30 – Oct 1, 2011.
25. T. Allen, P. Arduino, and D. Baska, “Observations During Reconnaissance Following the February 27, 2010, Maule, Chile Earthquake (Mw=8.8)”, ASCE Seattle Section Geotechnical Group/ASCE Seattle Section, Red Lion Inn, January 27, 2011.

26. P. Arduino, S. Ashford, and J. Moehle “Learning from Chile”, Science Pub Conference Series, The Bagdad Theater, Portland, OR, June 28, 2010.
27. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees Days, August 2011, Berkeley, CA.
28. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees Days, September 2010, Berkeley, CA.
29. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees Days, September 2009, Berkeley, CA.
30. P. Arduino, “Geotechnical Applications in OpenSees”, OpenSees Developer Symposium, September 2008, Berkeley, CA., http://opensees.berkeley.edu/workshop/OpenSeesDays2008/OpenSeesDays2008.html
31. P. Arduino, “Modelación del comportamiento del suelo empleando “bounding surface” y resultados de ensayos triaxiales cúbico”, Universidad de los Andes (UNIANDES), Bogota, Colombia, March 21, 2007.
32. P. Arduino, “Development and Application of Mixed Beam-Solid Models for Analysis of Soil-Pile Interaction Problems”, Universidad de los Andes (UNIANDES), Bogota, Colombia, March 20, 2007.
33. P. Arduino, “Computacional Geomechanics”, Invited speaker/participant - Encuentro Latino de Profesores de Geotecnia, auspiciado por la Fundacion Goizueta, Atlanta, GA, March 1-3, (2006).
34. P. Arduino, “Role of Information Technology in Learning and Education”, Invited panelist-GeoCongress Atlanta 06, Atlanta, GA – Feb 26 – March 1, (2006).
35. P. Arduino, “Computational Geomechanics at the University of Washington”, Invited speaker-Korea Water Resources Corporation (KOWACO), Daejeon, Korea - April 25, (2006).
36. P. Arduino, “Performance Based Analysis for Bridges in Liquefiable Soils”, Invited speaker – Korean Institute of Construction Technology (KICT), Ilsan, Korea - April 24, (2006).
37. P. Arduino, P., “Comportamiento Experimental de Gravas Sometidas a Cargas Cíclicas”, Invited panelist - SINERGIA 2004-XVII Congreso Argentino de Mecanica de Suelos e Ingeniería Geotécnica – Universidad Nacional de Córdoba, Córdoba, Argentina - October 20, (2004).
38. P. Arduino, “Rigidez Dinamica de Pilotes en Suelos Licuables”, Universidad Nacional de Chile, Santiago de Chile, Chile, June 24, 2004.
39. P. Arduino, “Modelacion Numerica y Experimental de Materiales Granulares Gruesos”, Universidad Nacional de Chile, Santiago de Chile, Chile, June 23, 2004.
40. P. Arduino, “Rigidez Dinámica de Pilotes en Suelos Licuables”, Universidad Nacional de Córdoba, Córdoba Argentina, June 9, 2004.
41. P. Arduino, “Modelación Física y Numérica de Suelos Granulares Gruesos”, Universidad Nacional de Córdoba, Córdoba Argentina, Abril 30, 2004.
42. P. Arduino, “Numerical Modeling of Liquefaction and its Effects on Pile Behavior”, University of Massachusetts at Amherst, MA, June 6, 2002
43. P. Arduino, “Dynamic Stiffness of Piles in Liquefiable Soils”, Washington State Department of Transportation, Olympia, WA, May 30, 2002.

44. P. Arduino, "Constitutive Modeling of Soils", Washington State University, March , 2001.
45. P. Arduino, "Constitutive Modeling of Soils: Some General Issues and Current Developments", University of California at Davis, March 12, 1999.

Presentations given at conferences

1. **P. Arduino**, Implementation, verification and validation of a bounding surface constitutive model for site response analysis, Keynote Lecture, XVI Panamerican Conference on Soil Mechanics and Geotechnical Engineering, Cancun, Mexico, Nov 17-20 2019.
2. **A. Ghofrani**, and P. Arduino, Finite Element Models of Soil-Pile Interaction Using Embedded Interaction Surface Elements, DFI Super Pile 19 Pile Design and Construction Conference, May 1-3, 2019.
3. **L. Chen**, and P. Arduino, Estimation of Shear Demands on Rock-Socketed Drilled Shafts Subjected to Lateral Spreading, DFI Super Pile 19 Pile Design and Construction Conference, May 1-3, 2019.
4. **P. Arduino**, W.C. Yang, P. Mackenzie-Helnwein, G. Miller, Application of the Material Point Method (MPM) to the Simulation of Flow-Like Events and their Interaction with the Built Environment, 15th Panamerical Conference on Soil Mechanics and Geotechnical Engineering (PCSMGE 2015), Nov 15-18, 2015, Buenos Aires, Argentina.
5. **P. Arduino**, P. Mackenzie-Helnwein, G. Miller, Response Analysis of Granular Flows using MPM, Engineering Mechanics Institute (EMI) Conference 2015, June 16-19, Stanford, CA.
6. **P. Arduino**, W.C. Wang, Modeling Tsunami Induced Debris Impacts on Bridge Structures Using the Material Point Method, 2015, Structures Congress 2015, April 23-24, Portland, OR.
7. **P. Arduino**, "How do state-of-the-art mechanics-based models cope with solid-fluid transitions in geomechanics", Speaker in Modeling and Characterization of Solid-Fluid Transitions in Soil Mechanics Panel Session, ASCE-GI Geo-Congress, Atlanta, GA, February 23-26, 2014.
8. **P. Arduino**, Mackenzie-Helnwein, and C.R. McGann, "Simplified Methodologies for Assessment and Design of Piles Affected by Lateral Spreading Ground", PEER Annual Meeting, Sept 30- Oct 1, 2011, Berkeley, California.
9. **P. Arduino**, Mackenzie-Helnwein, G. Miller and C. Mast, "Aplicación y Mejoras al Método MPM para el Análisis de Deslizamientos y Movimientos de Tierra", GeoLatina 2011, Emory University, Atlanta, GA, Oct 6-9, 2011.
10. **P. Arduino**, Mackenzie-Helnwein, and C. Mast, "Modeling Landslides and Debris Flow-Induced Loads on Protective Structures using the Material Point Method", Quake Summit - NEES & MCEER Annual Meeting, June 9-11, 2011, Buffalo, New York.
11. H. Shin, **P. Arduino**, and S.L. Kramer, "Performance-Based Earthquake Evaluation of Bridges on Soils Subjected to Lateral", presented at 2009 PEER Annual Meeting, San Francisco, CA, October 15-16, 2009.
12. **P. Arduino**, P. Mackenzie-Helnwein, and P. I. Lam "Estudio de Interacción Suelo-Pilote Sometidos a Cargas Laterales Mediante OpenSees", keynote talk – presented at III Conferencia Sudamericana de Ingenieros Geotécnicos Jóvenes - Desafíos y Avances de la Geotecnia Joven en Sudamérica, Cordoba, Argentina, Marzo 2009.

13. **P Lam**, P. Arduino, and P. Mackenzie-Helnwein, "OpenSees Soil-Pile Interaction Study under Lateral Spread Loading", presented at International Foundation Congress and Equipment Expo (IFCCE'09) , March 2009.
14. Shin, H., **Arduino, P**., Kramer, S.L., and Mackie, K. "Seismic Response of a Typical Highway Bridge in Liquefiable Soils", presented at ASCE Geotechnical Earthquake Engineering and Soil Dynamics IV Congress (GEESD), Sacramento, CA, May 19-23, 2008.
15. **Arduino, P**., Petek, A.K., and Mackenzie-Helnwein, P. "Three-dimensional beam-solid contact element formulation for analysis of pile-soil interaction", ENIEF 2007 XVI Congreso sobre Metodos Numericos and sus Aplicaciones, Octubre 2-7, 2007, Cordoba, Argentina.
16. P. Mackenzie-Helnwein, **P. Arduino**, and K.A. Petek. Frictional 3D Beam-to-Solid Contact Formulation for OpenSees, OpenSees Developer Symposium, August 16, 2006, Berkeley, CA. http://opensees.berkeley.edu/workshop/OpenSeesDays2006.html
17. Petek, K., **Arduino, P**., and Mackenzie, P., "3-D Beam-to-Solid Contact Formulation for the Simulation of Soil-Pile Structure Interaction Problems", presented at 8th World Congress on Computational Mechanics, July 15-17, 2006.
18. **Ranf, R. T**., Shin, H.S., Eberhard, M.O., Arduino, P., Kramer, S., "Experimentally Based Evaluation of Soil-Foundation-Structure Interaction for a Reinforced Concrete Bridge", presented at 8th National Conference on Earthquake Engineering commemorating 100th Anniversary of 1906 S.F. Earthquake, San Francisco, CA, April 18-22, 2006.
19. **Arduino, P**., Choi, C.H., and Harney, M., "Simulation of Complex Stress-Paths using the Manzari-Dafalias Two-Surface Bounding Surface Model", presented at McMat EM 2005 conference, LSU, Baton Rouge, Louisiana, June 2005.
20. **Shin, H.S**., Ilankatharan, M., Arduino, P., Kramer, S., Kutter, B., "Experimental and Numerical Analysis of Seismic Soil-Pile-Structure Interaction of a Two-Span Bridge", presented at 8th National Conference on Earthquake Engineering commemorating 100th Anniversary of 1906 S.F. Earthquake, San Francisco, CA, April 18-22, 2006.
21. Shin, H.S., Ilankatharan, M., **Arduino, P**., Kramer, S., Kutter, B., "Seismic Soil-Foundation-Structure Interaction of Oriented Bridge Bents", presented at 8th National Conference on Earthquake Engineering commemorating 100th Anniversary of 1906 S.F. Earthquake, San Francisco, CA, April 18-22, 2006.
22. **Hoyos, L.R**., and Arduino, P. (2005). "Modeling response of unsaturated silty sand in three-invariant stress space". Presented at Third MIT Conference on Computational Fluid and Solid Mechanics, Elsevier Science, June 14-17, 2005, Boston, Massachusetts.
23. **Hoyos, L**., Arduino, P., "Simulation of Unsaturated Soil Behavior in Three-Invariant Stress Space", presented at McMat EM 2005 conference, LSU, Baton Rouge, Louisiana, June 2005.
24. **Shin, H**., Arduino, P., "Numerical Analysis of Seismic Pile-Soil-Structure Interaction Problem using OpenSees", presented at McMat EM 2005 conference, LSU, Baton Rouge, Louisiana, June 2005.
25. **Petek, K**., Mackenzie, P., and Arduino, P., "Two- and Three-Dimensional Contact Element Implementation for Geotechnical Applications", presented at McMat EM 2005 conference, LSU, Baton Rouge, Louisiana, June 2005.
26. **Arduino, P**., Choi, C.H., and Harney, M., "Two-Surface Soil Constitutive Model Calibration for Coarse Granular Materials", to be presented at Geo- frontiers, Austin Texas, January 2005.

27. Choi, ChangHo. and **P. Arduino**, "Comportamiento Experimental de Gravas Sometidas a Cargas Cíclicas", to be presented at SINERGIA 2004-XVII Congreso Argentino de Mecanica de Suelos e Ingeniearia Geotecnica – Universidad Nacional de Cordoba, Cordoba, Argentina - October 18-23, 2004.
28. Choi, ChangHo. and **P. Arduino**, "Behavioral Characteristics of Gravelly Soils under General Cyclic Loading Conditions ", presented at International Conference on "Cyclic Behaviour of Soils and Liquefaction Phenomena, Bochum – Germany, 31 March – 02 April (2004).
29. Hoyos, L., **P. Arduino**, and E. Macari, "Modeling Controlled-Suction Unsaturated Soil Response on Deviatoric Stress Plane", presented at 16th ASCE Engineering Mechanics Conference (EM2003), July 16-18, 2003University of Washington, Seattle, WA.
30. Choi, ChangHo. and **P. Arduino**, "Behavioral Characteristics of Gravelly Soils under General Loading Conditions", presented at the 16th ASCE Engineering Mechanics Conference (EM2003), July 16-18, 2003University of Washington, Seattle, WA.
31. Hoyos, L., P. Arduino, and **E. Macari**, "Modeling unsaturated soil response on deviatoric □-plane", presented at 4th International Workshop on "Applications of Computational Mechanics in Geotechnical Engineering", Ouro Preto – Brazil, August 17-20, (2003).
32. Hoyos, L., **P. Arduino**, and E. Macari, "Experimental and Computational Modeling of Elasto-Plastic Constitutive Behavior of An Unsaturated Soil Under True Triaxial Stress States", presented at the 15th ASCE Engineering Mechanics Conference (EM2002), June 2-5, 2002, Columbia University, New York, NY.
33. **Arduino, P**., S. L. Kramer, A. Jones, and M. Eberhard, "Uncertainty Analysis for a Seismic Warning System", presented at the 2002 TRB Meeting, WA-DC January 14-16 2002.
34. **Arduino, P**., S. L. Kramer, and D. Baska, "Applications of a Simple Constitutive Model for Liquefiable Soils, presented at the 2001 ASCE-ASME-SES Joint Applied Mechanics & Materials Summer Conference, La Jolla, San Diego, June 27-29, 2001.
35. **Arduino, P**., S. L. Kramer, and D. Baska, "UW-Sand – A Simple Constitutive Model for Liquefiable Soils, presented at the 6th U.S. National Conference on Computational Mechanics, Dearborn, Michigan, August 1-4, 2001.
36. **Kramer, S**. L., and Arduino, P., "Constitutive Modeling of Cyclic Mobility and Implications for Site Response, presented at the 2th International Conference on Earthquake Geotechnical Engineering, Laboratorio Nacional de Engenharia Civil, Lisboa, Portugal, June 21-25, 1999.
37. Sfriso, A., **Arduino, P**. and Macari, E. J., "A Constitutive Equation for Sands based on Non-Associative Plasticity and the Stress-Dilatancy Theory, presented at the 5th U.S. National Congress on Computational Mechanics, University of Colorado at Boulder, Boulder, CO, July 1999.
38. **Arduino, P**., Constitutive Modeling of Soils: Some General Issues and Current Developments, UW Civil Engineering Seminar Series, Nov. 1998.
39. **Arduino, P**. and E. J. Macari, Numerical Study of Geomaterials in the Light of Modern Theories of Porous Media, presented at the Biot Conference on Poromechanics, Universite Catholique de Louvain, Louvain-la-Neuve, Belgium, September 1998.
40. **Arduino, P**. and E. J. Macari (1998) Numerical Modeling of Spread Footings at Bridge-Embankment Interfaces, presented at the annual meeting of the Transportation Research Board, Washington, DC, January 1998.

41. **Arduino, P**., Analytical and Numerical Study of Geomaterials in the Light of Modern Theories of Porous Media, presented at the NSF Civil and Mechanical Systems Workshop for the Advancement & Retention of Underrepresented & Minority Engineering Educators, Washington DC, September 1997.
42. Arduino, P. and **E. J. Macari**, Multi-Phase Flow in Deforming Porous Media by the Finite Element Method, presented at the eleventh ASCE conference in Engineering Mechanics, Florida Atlantic University Center, Fort Lauderdale, FL, May 1996.
43. **Macari, E. J**. and P. Arduino, Overview of `State-of-the Practice', Modeling of Overconsolidated Clays, presented at the annual meeting of the Transportation Research Board, Washington, DC, January 1995.
44. **Arduino, P**., A. Op den Bosch and **E. J. Macari**, Simulation of a Cyclic Triaxial Experiment in a Virtual Environment, presented at the NSF Workshop on Scientific Supercomputing, Visualization, and Animation in Geotechnical Earthquake Engineering and Engineering Seismology by P. Arduino and E. Macari, Carnegie Mellon University, Pittsburgh, PA,1994.
45. **Arduino, P**., E. J. Macari and M. Gemperline, Load-Settlement Prediction of Footings on Steep Slopes, presented at the ASCE Specialty Conference on Vertical and Horizontal Deformations of Foundations and Embankments – Settlements' 94, Texas A&M, College Station, TX, June 1994.
46. **Arduino, P**. and E. J. Macari, Bearing Capacity of Footings on Steep Slopes, presented at the Fifth Puerto Rican EPSCoR Annual Conference, Mayagüez, PR, 1993.
47. Arduino, P., **E. J. Macari**, S. Weihe and K. Runesson, Numerical Integration Scheme Applied to a Cone-Cap Model, presented at ASCE Meet'n 93 Conference in Engineering Mechanics, Charlottesville, VA, June 1993.
48. **Macari, E. J**. and P. Arduino, Elasto-Plastic Characterization of Granular Materials with Implications for Slope Stability, presented at the NSF Structures, Geomechanics and Building Systems Grantees' Conference, San Juan, PR, 1992.

Professional society memberships

1. American Society of Civil Engineers, member (1992-present)
2. TAU BETA PI National Engineering Honor Society, member, (1992-present)
3. PHI KAPPA PHI National Honor Society, member, (1992-present)
4. CHI EPSILON National Civil Engineering honor Society, member (2001-present)
5. Editorial Board, ASCE Journal of Geotechnical and GeoEnv. Engineering (2004-2015)
6. ASCE-EM Inelastic behavior committee member, (2001 – present)
7. USUCGER Board of Directors, (2002 - 2003)
8. ASCE-GI Earth Retaining Structures committee member, (2008-present).
9. NEES-RAAS committee member (2010-2013).
10. NEES-Simulation committee member (2010 – 2015)
11. NHERI-DesignSafe Simulations Requirements Committee (2015-present)
12. NHERI-SimCenter Developers Committee (2016-present)
13. PEER – Research Committee, 2020 -

14. Review committee for ASCE – MOP 117 Inspecting Pipeline Installation, 2011- present.

Unsponsored research

- Since 2001 I have been involved in the development of object-oriented computational tools for civil engineering applications. Most of this work has been done in cooperation with Prof. Greg Miller and Peter Mackenzie-Helnwein. Several tools resulting from this effort are publically available in the internet and include: DrLayer, TFunction, and PileGroupTool

List of other teaching contributions

1. Analysis and Evaluation of Single Piles in Laterally Spreading Soil, One-Day Short Course (with E. Naesgaard, A. Amini, B.Turner, A. Khosravifar), ASCE Seattle Section Geotechnical Group, Columbia Tower, Seattle, WA, April 13, 2018.
2. Soil-Structure Numerical Modeling in Geotechnical Practice, One-Day Short Course (with Dr. M. Beaty and H. Ellis) ASCE Seattle Section Geotechnical Group, Best Western Executive, Seattle, WA, Jan 23, 2015.
3. Seismic Site Response Analysis - One-Day Short Course (with S. Kramer), Oregon State University Geotechnical Group and ASCE Portland Section Geotechnical group, Oregon State University, Corvallis, OR, March 22, 2013.
4. Visiting profesor, Inelasticidad Computacional – Short Course (40 course hours distributed in two weeks), Programa de Maestria y Doctorado en Ingenieria Civil – Universidad Nacional de Córdoba, Córdoba, Argentina, Dec 2008.
5. Visiting profesor, Inelasticidad Computacional – Short Course (40 course hours distributed in two weeks), Programa graduado en Ingeniería Civil – Universidad de los Andes, Bogotá, Colombia, June 2008, 2010.
6. Instructor, OpenSees Users Workshop - OpenSees Days 2007, 2008, 2009, 2010, 2011, 2012, and 2013 – Geotechnical components and examples using OpenSees, offered every year in August or September.
7. Missouri University of Science and Technology GeoMo Conference, “Geotechnical Earthquake Engineering – Site Response”, Instructors: Kramer, S., and Arduino, P., May 2, 2008.
8. Instructor, PE Review Course – Geotechnical component Instructor (offered twice a year, since 2000-present).

9. In charge of development and instruction of the 2005 PEER scholars course seismology component. Seattle, WA, September 16, 2005.
10. In charge of organization of the 2003 "USUCGER-TRB Doctoral Student Research in Transportation Geotechnics Workshop" (in cooperation with Susan Burns from the Georgia Institute of Technology), Washington DC, January 13, 2003.
11. In charge of development and instruction of the 2001 PEER scholars course public policy component (in coordination with Prof. Peter May from UW Political Science Dept.). Seattle, WA, November 10-12, 2001.
12. In charge of development and instruction of the 1999 PEER scholars course geotechnical component (in coordination with Prof. Steve Kramer). Seattle, WA, September 10-12, 1999.
13. Chaired PEER fellowship sub-committee (1998-2000).
14. UW PEER Education Program representative. In charge of developing and monitoring earthquake related PEER education programs at the University of Washington. The program consisted of four main subprograms: a) PEER undergraduate summer internships, b) PEER undergraduate earthquake engineering scholars course, c) PEER graduate fellowship, and c) development of Educational Modules for Earthquake Engineering.

Teaching Awards, Nominations for Teaching Awards

1. Outstanding Teacher Award, Department of Civil & Environmental Engineering, University of Washington, June, 2009.
2. J. Ray Bowen Professorship for Innovation in Engineering Education (2003 - 2007).
3. Nomination - University of Washington Outstanding Mentor award (2003).
4. Nomination - University of Washington Outstanding Teaching award (2002), (2003).
5. Nomination - University of Washington College of Engineering Teaching award (2002), (2003), (2005).

SERVICE

Departmental service

- Associate Chair, Department of Civil & Env. Engineering, 2010 - 2015.
- Chair, Department of Civil & Env. Engineering Graduate program, 2010 –2013.
- Chair, Department of Civil & Env. Engineering Space committee, 2010 – 2015.

- Member, Michael Dodd mentor committee, 2009 – present.
- Member, Jeff Berman mentor committee, 2008 – present.
- Member, Peter Mackenzie-Helnwein mentor committee, 2008 – present.
- Member, Ed McCormack mentor committee, 2009 – present.
- Member of search committee, Department of Civil & Env. Eng. Struct-Geotech search, 2009 – 2010.
- Member, Department of Civil & Env. Engineering merit review committee, 2009.
- Chair, Department of Civil & Env. Engineering Undergraduate program, 2008 – 2011.
- Advisor, ASCE student Chapter, 2006 – 2008.
- Member, Concrete Canoe National Competition Committee, 2007.
- Member, Department of Civil & Env. Engineering Strategic Planning committee, 2001 – 2002.
- Member of search committee, Department of Civil & Env. Engineering, Comp. Mech. search, 1999.
- Member, Department of Civil & Env. Engineering Web-site committee, 1999 – present.
- Chair, Department of Civil & Env. Engineering Computing committee, 1999 – present.
- Member, Department of Civil & Env. Engineering, Scholarships committee, 1999 – 2002.
- Member, Department of Civil & Env. Engineering MRI – NSF Special Equipment committee, 1997-2002.

College service

- Associate Dean of Infrastructure, College of Engineering, 2015 – present.
- Member, College of Engineering Centers review committee, 2014.
- Member, College of Engineering Undergraduate Admissions Policy committee, 2010 – 2011.
- Member of search committee, Department of Civil and Env. Engineering Chair search committee, 2006.
- Member College of Engineering Latin America connection committee, 2006 - 2007.
- Participant and organizer, College of Engineering Open-House, 2001
- Member, College Engineering Faculty Focus advisory committee, 1997 – 2005.

University service

- Senator, University of Washington Senate (representing CEE), 2009 – 2010.
- Member, University of Washington Royalty Research Fund Review committee, 2007 – 2009.

- In cooperation with Burke museum in the development of display "The Big One" on Earthquakes in the Pacific Northwest; open to the public in February 28, 2002.

Professional society and other service

- PEER-Research committee member, 2020 - .
- Committee member- ASCE MOP 117 Inspecting Pipeline Installation, 2011- 2012
- Organizing committee, NEES Quake-Summit 2012, Boston, July 8-12 2012.
- Member, NEES- Data Curation subcommittee, 2010 – 2015.
- Member, NEES- Simulation subcommittee, 2010 - 2015.
- Member, NEES- RAAS (Requirement Analysis and Assessment) subcommittee, 2010 - 2013.
- Organizing committee (and co-author of report), Earthquake Engineering Vision 2020, An Open Space Technology Workshop on the Future of Earthquake Engineering, St. Louis, Missouri, Jan 25-26, 2010.
- Organizing committee, ASCE - Geo Institute Earth Retention 2010 Congress – ER 2010, Seattle, August 4-6, 2010.
- Organizing Committee, Geotechnical Earthquake Engineering Congress - GEESD-IV 2008, Sacramento, May 18-22, 2008.
- Associate Editor, ASCE Journal of Geotechnical and GeoEnvironmental Engineering, 2004 – 2017.
- Organizing committee, Geo-Congress 06-ASCE Geo Institute conference – Atlanta, GA, Feb 2006.
- Organizing committee, EM2003-ASCE Engineering Mechanics Conference – Seattle, WA, July 2003.
- Member, ASCE Engineering Mechanics (EM) Inelastic Behavior and Properties of Materials committee, 2001 – present.
- PEER-NSF Education committee member, 1997 – 2008.

Community service

- Head coach, Bellevue Youth Soccer Club – Recreational league – 2001 – 2009.
- West Coast Argentina Chamber of Commerce, Board member – 2018 - present

International, national or governmental service

- COGGE member – National Academies of Science and Engineering Committee on Geological and Geotechnical Engineering.
- Committee member- Engineering Mechanics Institute (EMI) International Scientific Committee, 2014- present.
- Member, GEER team (& lead report author) in charge of geo-engineering reconnaissance activities related to the 2017 Puebla-Mexico City Earthquake. In the ground in Mexico City in September, 2017.

- Member, GEER (Geo-engineering Extreme Events Reconnaissance Association) team (& lead report author) in charge of geo-engineering reconnaissance activities related to the 2011 Great East Japan Earthquake. In the ground in Japan in April 11-15, 2011.
- Member, GEER team (& lead report author) in charge of geo-engineering reconnaissance activities related to the 2010 Maule, Chile Earthquake. In the ground in Chile in March 13-18, 2010.
- Member of board of directors, USUCGER (United States University Council on Geotechnical Engineering Research), 2002 – 2003.
- Member, Nisqually Earthquake UW clearinghouse committee, 2001.
- NSF CMS review panel, 2001.
- NSF PFSMETE review panel (Post-doc. fellowships in Science, Math. Eng. and Tech..Education), 1999.
- NSF CMS review panel, 1998.
- NSF PFSMETE review panel (Post-doc. fellowships in Science, Math. Eng. and Tech. Education) , 1997.

Consulting

- Tennessee Valley Authority (TVA) EPA Phase V, Seismic Assessment- Supplemental Numerical Simulations, Geocomp Consulting, Inc (w/ Steve Kramer), January-December 2019.
- Tennessee Valley Authority (TVA) EPA Phase V, Seismic Assessment- Supplemental Numerical Simulations, Geocomp Consulting, Inc (w/ Steve Kramer), January-December 2018.
- Tennessee Valley Authority (TVA) EPA Phase IV, Seismic Assessment- Supplemental Numerical Simulations, Geocomp Consulting, Inc (w/ Steve Kramer), January-December 2017.
- Tennessee Valley Authority (TVA) EPA Phase III, Seismic Assessment- Supplemental Numerical Simulations, Geocomp Consulting, Inc (w/ Steve Kramer), January-December 2016.
- Tennessee Valley Authority (TVA) EPA Phase II, Seismic Assessment- Supplemental Numerical Simulations, Geocomp Consulting, Inc (w/ Steve Kramer), July-December 2015.
- Tennessee Valley Authority (TVA) EPA Phase I-Seismic Assessment- Supplemental Numerical Simulations, Geocomp Consulting, Inc (w/ Steve Kramer), August-December 2012.
- Development of Ground Motions – Carpenters Tower Project, Seattle, WA (with Steve Kramer) – Whitlock Dalrymple Poston & Association – August 2009.
- OpenSees Simulations - Grays Harbor SR520 Pontoon Construction Facility (with Steve Kramer) – Landau – Nov – Dec 2008.
- OpenSees Soil-Pile Interaction Study under Lateral Spread Loading – (with Peter Mackenzie Helnwein and Po Lam) – Earth Mechanics – Sep-Dec 2007.
- Brightwater Marine Outfall Analysis using OpenSees – HWA, December 2007.
- Implementation of a Duncan-Chang Hyperbolic constitutive model in FLAC-3D, Tacoma Narrows Bridge Project, *Shannon & Wilson*, Seattle, WA, 2002.

- Non-linear Free-field Analyses for Liquefiable Soils, Projects: Skookumchuck Dam, Boeing Control Tower, Hutchison Career Center (Fairbanks, Alaska), Marysville Water Plant; Kent City Hall, *Shannon & Wilson*; Seattle, WA, 2000-2002.
- Evaluation of Embankment Dynamic Lateral Displacements, Port of Seattle Third Run-Way project, *Hart Crowser*; Seattle, WA, 2001-2002.
- Expert witness, "Landslide Hazards in West Seattle", State of Washington, 2000.
- Analysis of Foundational Alternatives for Support of Puget Sound Energy Transmissions; with Steven K. Kramer, Seattle, WA, 1999.
- Soil characterization by means of simple shear tests of a Puerto Rican silty-clay soil. Supervisor: Dr. E. J. Macari and Dr. J. A. Bernal, Atlanta, GA, 1994.
- Soil characterization and foundation analysis for a two story building. Supervisor: Dr. E. J. Macari, and Dr. J. A. Bernal, Mayagüez, PR, 1992.
- Analysis and Design of six (6) R-C multi story buildings by means of the S-ETABS computer program and Argentine building code. Supervisor: Dr. Carlos A. Bartó and Prof. Carlos Larson, Córdoba, Argentina, 1988-1990.