



Curriculum Vitae of Dr. Daniel Pradel, PE, GE, DGE, F.ASCE



NSF-GEER visit to Puerto Rico
in 2017 after hurricane Maria

Education

Certificate of Postdoctoral Studies in Geotechnical Engineering, University of California, Los Angeles (UCLA), December 1989

Doctor of Engineering in Civil Engineering, University of Tokyo (Japan), October 1987

Diploma of Civil Engineer, Swiss Institute of Technology in Lausanne (Switzerland), a.k.a., EPFL, January 1982

Professional Engineer Registrations and Certifications

State of California Registered Geotechnical Engineer (G.E. 2242)

State of California Registered Civil Engineer (R.C.E. 47734)

State of Nevada Registered Civil Engineer (R.C.E. 12285)

State of Hawaii Registered Civil Engineer (R.C.E. 12243)

State of Utah Registered Civil Engineer (R.C.E. 9252352-2202)

Registered Engineer in Switzerland Number 2/16791.

Post-Disaster Safety Assessment Program (SAP) Evaluator, State of California (No. SAPV61821), Governor's Office of Emergency Services (OES)

Academic Experience

8/2016 – present Professor of Practice (Geotechnical), The Ohio State University (full-time)

9/1997 – 6/2016 Adjunct Associate Professor, UCLA (part-time) 9/1997

9/1988 – 6/1997 Lecturer, UCLA (part-time)

Professional Experience

5/1982 – 4/1984 Civil Engineer in the Dam Design Dept., Motor-Columbus Consulting Engineers (Baden, Switzerland): Performed analyses for the static and seismic design of several earth and concrete dams and their related

structures (bottom outlet, diversion tunnel, spillway, etc.), including El Cajon arch dam in Honduras, Paute Mazar gravity dam in Ecuador, Yuracmayo earth dam in Peru, and several other dams in South America, Indonesia and Switzerland (full-time).

7/1989 – 8/1997

Senior to Chief Engineer (Geotechnical), Lockwood-Singh & Assoc. (Los Angeles, CA): Performed numerous geotechnical investigations and analyses of earth failure mechanisms including landslides, subsidence, slope failure, settlement, and expansion heave, mostly for residential projects. I also performed many engineering analyses for the design of foundations, earth structures, the evaluation of seismicity, soilstructure interaction, groundwater and seepage. Larger projects included schools of the Los Angeles Unified School District, government buildings (e.g., for the City of Culver City), commercial and industrial projects (e.g., for a Union Carbide chemical plant), temples (Sikh Temple in Hollywood), etc. (full-time).

9/1997 – 4/2011

Chief Engineer of Praad Geotechnical Inc. (Los Angeles, CA): As cofounder and Principal of Praad Geotechnical, I directed and/or performed numerous geotechnical investigations and analyses related to large transportation projects (e.g., Silicon Valley Rapid Transit), dams (e.g., Celite Dams and Leniham Dam), landslide stabilizations (e.g., Estrondo landslide), as well as for commercial and residential projects. Projects were mostly located along the West Coast of the USA, Japan and Latin-America. I also directed and/or performed geotechnical earthquake engineering investigations of ground motions for specific sites, regional studies of earthquake damage and seismicity, and distress causation investigations, e.g., for earthquakes and landslides (full-time).

5/2011 – 8/2015

Principal Engineer and Group Manager (Geotechnical), Group Delta Consultants (Torrance, CA): As the manager of the Numerical Modelling group of GDC, I directed and performed numerous geomechanical numerical analyses for the seismic analyses of large transportation projects in Canada (ELRT) and California (e.g., for BART, LA Metro, 605/10 viaduct). I also provided design recommendations for schools in Los Angeles Unified School District, commercial developments, and performed causation and landslide investigations, mostly in Utah and California (full-time).

8/2015 – 8/2016 Vice-President (Geotechnical), Shannon & Wilson (Glendale, CA): I directed and performed various geotechnical investigations and analyses related to large transportation projects (e.g., Queenstown Airport in New Zealand, LA Metro, LAX, and others), a sinkhole (in Louisiana), commercial buildings, and distress causation investigations for subsidence, flooding, soil heave and landslides (full-time).

Details of relevant projects are presented at the end of this document.

Membership in Engineering Organizations

Society of Hispanic Professional Engineers (SHPE)

American Society of Civil Engineers (ASCE)

Earthquake Engineering Research (EERI)

Deep Foundation Institute (DFI)

International Society of Soil Mechanics and Foundation Engineering (ISSMFE).

Honors and Awards

Fellow of the American Society of Civil Engineers (ASCE)

Diplomate of ASCE's Academy of Geo-Professionals (No. 1135)

Commissioner of the Accreditation Board for Engineering and Technology (ABET) on the Engineering Accreditation Commission (EAC) 2019-Present

Commissioner of the Accreditation Board for Engineering and Technology (ABET) on the Engineering Technology Accreditation Commission (ETAC) 2017-2019

Central Ohio Section of ASCE "Outstanding Section Member" award recipient, 2018

FCC-OSPE State of Ohio Outstanding Engineering Educator award recipient, 2018

Associate Editor of the ASCE Journal of Geotechnical and Geoenvironmental Engineering.

Co-Editor of the 2013 GeoCongress in San Diego (GeoCongress is the name of the national conference of the GeoInstitute of ASCE)

Invited speaker at several GeoInstitute of ASCE, Deep Foundation Institute (DFI) conferences and events in Mexico, Canada and USA since 2011.

NSF-GEER (Geotechnical Extreme Event Reconnaissance) team member assigned to Puerto Rico after Hurricane Maria (October, 2017)

Travel research grant to visit the damaged areas after the Magnitude 9.0 Tohoku Earthquake of March 11, 2011.

Swiss National Scientific Research Fund, Junior Researcher Support Grant to attend UCLA, Jan. 1988 - Dec. 1988.

Swiss National Scientific Research Fund, Junior Researcher Support Grant to attend the University of Tokyo, Nov. 1985 - Oct. 1987.

Japanese Minister of Education Scholarship, April 1984 - Sept. 1987.

State of Vaud Award (Switzerland) for thesis at EPFL, Jan. 1982.

Service activities

At The Ohio State University

2019 – present	Ohio State Research Recovery Committee (COVID-19)
2018 – present	Undergraduate Studies Committee (Chair for Civil Eng. since 2019)
2018 – present	College of Engineering (COE) Program Advisory Group
2018 – present	COE Admission to Major Committee
2018 – present	COE Outcomes and Assessment Committee
2017 – 2019	Faculty of Practice in Committee on Promotion and Tenure (P&T)
2017 – 2019	COE Ad Hoc Task Force on Admission to Major Procedures for the College of Engineering
2017 – 2018	COE Committee on Academic Affairs (CCAA)
2017 – 2018	Core Curriculum, Teaching and Learning committee.
2017 – 2019	Faculty Professional Development Program-Advisory Group
2018	Foundation and dewatering expert for Wexner replacement hospital
2016 – 2017	Professor of Practice in Construction Engineering Search Committee
2016 – 2019	Reorganization of the Geotechnical Engineering Curriculum
2016 – present	Chair of T.H. Wu Distinguished Lecture Committee

Engineering Accreditation

Boards and Societies:

2005 – 2016	Program Evaluator of Civil Engineering programs for the Accreditation Board of Engineering and Technology (ABET).
2017 – 2019	Commissioner for ABET's Engineering Technology Accreditation Commission (ABET-ETAC).
2019 – present	Commissioner for ABET's Engineering Accreditation Commission (ABET-EAC).
2015 – 2017	Member of the ASCE Committee on Accreditation Operations (COAO)
2017 – 2019	Member of the ASCE Committee on Accreditation (COA)

Program Evaluations:

Fall 2008:	ABET visit to Gonzaga University in Spokane, WA.
Fall 2009:	ABET visit to Old Dominion University in Norfolk, VA.
Fall 2010:	ABET visit to Universidad Autónoma de San Luis de Potosí (México).
Fall 2011:	ABET visit to Universidad de los Andes in Bogota (Colombia).
Fall 2012:	ABET visit to Wayne State University, Detroit MI.
Fall 2013:	ABET visit to North Florida University, Jacksonville FL.
Fall 2014:	ABET visit to SUNY Broome CC, Binghamton, NY ABET visit to The Citadel (Military College), Charleston, SC
Fall 2015:	ABET visit to University of Vermont
Fall 2016:	ABET visit to Universidad Autónoma de Nuevo Leon (México).

Fall 2017: ABET team chair for visit and accreditation of UPR-Arecibo
 Fall 2018: ABET team chair for visit and accreditation of PennState-Dubois
 Fall 2019: ABET team chair for visit and accreditation of HoChiMinh City Univ. of Technology
 Fall 2019: ABET team chair for visit and accreditation of Univ. of New Hampshire

Professional Societies

2020 – present Corresponding member of ASCE’s Civil Engineering Program Criteria technical committee (accreditation)
 2019 – present Board member of the Ohio Dam Safety Organization (ODSO)
 2019 – present Member of OTEC Conference Geotechnical/Hydraulics Subcommittee
 2019 – present Chair of the ASCE-GI Awards Committee.
 2019 – present Member of the ASCE Awards Committee.
 2019 – present Organizing and technical committee member of ASCE’s GeoExtreme 2021 technical conference
 2016 – present: Associate Editor, ASCE Journal of Geotechnical and Geoenvironmental Engineering.
 2016 – present Attending ASCE Central Ohio Section Monthly Board Meeting and starting a local chapter of the ASCE GeoInstitute.
 2017 – 2019: Corresponding member of the Body of Knowledge 3 Committee of ASCE.
 2015 – 2017 Member of the ASCE Committee on Accreditation Operations (COAO)
 2017 – 2019 Member of the ASCE Committee on Accreditation (COA)
 2014 – 2019 Member of the ASCE-GI Awards Committee.
 2013 – 2017 Member of ASCE 41: Seismic Rehabilitation of Existing Buildings Standards Committee.
 2011 – present Member of the International Society for Soil Mechanics and Geotechnical Engineering’s Dams and Embankment Committee (TC2010) at the request of the ASCE-Geo-Institute.
 2010 – present Member of the Deep Foundation Institute (DFI) Landslides/Slope Stabilization Committee.
 2008 – present Member of the ASCE-GI Embankments, Dams and Slopes (EDS) Committee.
 2008 – present Member of the ASCE-GI Earth Retaining Structures (ERS) Committee
 2005 – present Member of the Deep Foundation Institute (DFI) Testing and Evaluation Committee.
 2013 Editor of ASCE Geotechnical Special Publication No.231, “Stability and Performance of Slopes and Embankments III”.
 2011-2012 Associate Editor, ASCE Journal of Geotechnical and Geoenvironmental Engineering.

- 2007-2011 Editorial Board Member, ASCE Journal of Geotechnical and Geoenvironmental Engineering.
- 2012-2016 Chair of the ASCE Embankments, Dams and Slopes (EDS) subcommittee on “Levees”.
- 2013 Moderator and speaker of the panel “Levees: Lessons from Tohoku to Katrina at the 2013 ASCE’s conference in San Diego (Geo-Congress 2013: Stability and Performance of Slopes and Embankments III).
- 2008-2012 Chair of the Awards Subcommittee of the ASCE Embankments, Dams and Slopes (EDS) Committee of ASCE.
- 1999-2000 Editor and Committee Member, Recommended procedures for implementation of DMG SP117 (“Guidelines for evaluating and mitigating seismic hazards in California”) for analyzing and mitigating landslide hazards in California.
- 2001-2002 Committee Member, Recommended procedures for implementation of DMG SP117 (“Guidelines for evaluating and mitigating seismic hazards in California”) for analyzing and mitigating landslide hazards in California.
- 1994-2000 Chair, Vice-Chair, Treasurer, 1st and 2nd Director of the Los Angeles Geotechnical Technical Section of the American Society of Civil Engineers.
- 1995-1996 Committee Member of the Slope Stability Committee for the Los Angeles County Department of Building and Safety.
- 1990-2012 Committee member of the American Society of Testing Materials Committee on Soil and Rock.
- 1992-2012 Committee member of the American Society of Testing Materials Committee on Waste Management.
- 1990-1992 Subcommittee chairman for the Structural Engineers Association of Southern California for Foundations.

National Academy of Engineering and National Science Foundation

- 2018 – 2019 Member of Panel on rock scaling for the National Academy of Engineering Transportation Research Board
- 2018 National Science Foundation (NSF), Graduate Research Fellowship Program (GRFP) panelist
- 1996 – 1997 National Science Foundation (NSF), panel member of the G3S program (Geomechanical, Geotechnical, Geo-Environmental)

Publications

Publications in Journals and Books

1. "Landslide Movement at Lokanthali, during the 2015 Earthquake in Gorkha, Nepal", Tiwari B., Pradel D., et al. (2018), ASCE Journal of Geotechnical and GeoEnvironmental Engineering, Vol.144(3), No.05018001.
2. "Experimental Mapping of Elastoplastic Surfaces for Sand Using Undrained Perturbations", Eslami M. M., Pradel D., and Bandenberg S. J. (2018), Soils and Foundations, Vol.58, 160-171.
3. "Regional Patterns of Landslides from the Tohoku, Japan Earthquake", Wartman, J., Dunham, L., Tiwari, B., and Pradel, D. (2015), Engineering Geology for Society and Territory, Vol.2, No.128, 759-763, Springer International Publishing, Switzerland.
4. "Impact of anthropogenic changes on liquefaction along the Tone River during the 2011 Tohoku Earthquake", Pradel D., Wartman J., and Tiwari B. (2014), ASCE Natural Hazards Review. Vol.15, 13-26.
5. "Landslides in Eastern Honshu Induced by the 2011 Off the Pacific Coast of Tohoku Earthquake", Wartman J., Dunham L., Tiwari B., and Pradel D. (2013), Bulletin of the Seismological Society of America, Vol. 103, No. 2B, 1503–1521.
6. "Landslides Triggered by 2011 Tohoku Pacific Earthquake: Preliminary Observations", Pradel D., Tiwari B., and Wartman J. (2011), Geo-Strata (ASCE's Geo-Institute) Sept./Oct. 2011, 28-32
7. "Practical Design of Stabilizing Piles", Pradel D. and Chang K. (2011), Deep Foundations (DFI), Summer 2011, 51-54
8. "Case History of Landslide Movement during the Northridge Earthquake", Pradel D., Smith P., Stewart J. and Raad G. (2005), ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 131, No. 11, 1360-1369.
9. "Procedure to Evaluate Earthquake-Induced Settlements in Dry Sandy Soils"., Pradel D. (1997), ASCE Journal of Geotechnical Engineering, Vol. 124, No. 4, 364-368 and Vol. 124, No. 10, 1048.
10. "Influence of Permeability on Surficial Stability of Homogeneous Slopes", Pradel D. and Raad G. (1993), ASCE Journal of Geotechnical Engineering, Vol. 119, No. 2, No.315332.
11. "Hydrocompression Settlement of Deep Fills, Discussion", Pradel D., Raad G. and Harter R. (1992), ASCE Journal of Geotechnical Engineering, Vol. 118, No. 6, 954-955.
12. "Stability and Flow of Granular Materials: Experimental Investigation", Lade P.V. and Pradel D. (1990), ASCE Journal of Engineering Mechanics, Vol. 116, No. 11, No.25322550.

13. "Stability and Flow of Granular Materials: Analytical Investigation", Pradel D. and Lade P.V. (1990), " ASCE Journal of Engineering Mechanics, Vol. 116, No. 11, No.25512566.
14. "Yielding and Flow of Sand under Principal Stress Axes Rotation", Pradel D., Ishihara K. and Gutierrez M. (1990), Soils and Foundations, Vol. 30, No. 1, 87-99.
15. "Plasticity Approach to Sand Behavior Under Principal Stress Axes Rotation", Towhata I., Pradel D. and Ishihara K. (1988) Micromechanics of Granular Materials, Studies in Applied Mechanics, Vol. 20, 191-200.

Publications in Peer-Reviewed Conference Proceedings

16. "Geotechnical Consequences and Failures in Puerto Rico Due to Hurricane Maria," Silva-Tulla F., Pando M.A, Pradel D., Park Y., and Kayen R. (2020), ASCE Geo-Congress Proceedings, Minneapolis, MN, 173-185.
17. "Effects of scour, landslides and debris flows in Puerto Rico during Hurricane Maria," Pradel D. and Pando M.A. (2019), 2nd International Conference on Natural Hazards & Infrastructure, 23-26 June, 2019, Chania, Greece.
18. "La Conchita Landslide: Case History and Remedial Measures", Pradel D. (2019), ASCE Geo-Congress Proceedings, Philadelphia, PA, 290-300.
19. "Performance of Foundations in the Kanto Plain North of Tokyo during the Mw=9.0 Tohoku Earthquake of March 2011", Pradel D., Wartman J., and Tiwari B. (2018), DFI/EFFC International Conference of Deep Foundations and Ground Improvement, Rome, Italy, 230-239.
20. "Case History: The Estrondo Landslide Stabilization in Encino, California", Pradel D. (2018), ASCE Geo-Congress Proceedings, Orlando, FL, 232-244.
21. "Characterizing the Strength of Tar Sands in Los Angeles, A Case History", Deane R. T., Pradel D. and Robertson C. (2018), ASCE Geo-Congress Proceedings, Orlando, FL, 458-469.
22. "Equations to calculate the undrained shear strength of lacustrine soil deposit with Swedish Cone Equipment", Tiwari B., Pradel D. and Ajmera B. (2018), ASCE GeoCongress Proceedings, Orlando, FL, 32-42.
23. "Yield Surface Mapping and Triaxial Compression Test Data Curation", Eslami M. M., Brandenberg S. J., Pradel D., and Esteva M. (2018), ASCE Geo-Congress Proceedings, Orlando, FL, 218-228.
24. "Importance of spectral acceleration in evaluating cyclic failure on soft clays – an experience from 2015 Gorkha earthquake", Tiwari B. and Pradel D. (2017), abstract of Keynote Lecture at the 15th International Symposium on Geo-Disaster Reduction, pp. 15, Matsue & Kyoto, Japan.

25. "Emergency Stabilization of the White Point Landslide", Deane R. T., Pradel D. and Bunker J. M. (2017), ASCE GeoCongress, Orlando, FL, 324-332.
26. "Ground Deformation at Lokanthali, Kathmandu due to Mw 7.8 2015 Gorkha Earthquake", Tiwari B. and Pradel D. (2017), ASCE GeoCongress, Orlando, FL, 333342.
27. "The use of MSE walls backfilled with Lightweight Cellular Concrete in soft ground seismic areas", Pradel D., and Tiwari B. (2015), 3rd International Conference on Deep Foundations, Volume prepared by ISSMGE Technical Committee 214 (SMIG, DFI, ASCE-GI), 107-114.
28. "Seismic Performance of Levees in the Kanto Plains North of Tokyo during the 2011 Tohoku Earthquake", Pradel D., Wartman J., and Tiwari B. (2015), Dam Safety Conference, ASDSO proceedings, New Orleans, Louisiana.
29. "The Progressive Failure Reactivation of La Conchita Landslide in 2005", Pradel D. (2014), ASCE Geo- Congress 2014: Geo-Characterization and Modeling for Sustainability, GSP 234, 3209-3222.
30. "Failure of the Fujinuma Dams during the 2011 Tohoku Earthquake", Pradel D., Wartman J., and Tiwari B. (2013), ASCE Geo-Congress 2013: Stability and Performance of Slopes and Embankments III, GSP 231, 1566-1580.
31. "Estimating Undrained Strength of Clays from Direct Shear Testing at Fast Displacement Rates", Bro A., Stewart J., and Pradel D. (2013), ASCE Geo-Congress 2013: Stability and Performance of Slopes and Embankments III, GSP 231, 106-119
32. "Seismic Testing Program for Large-Scale MSE Retaining Walls at UCSD", Sander A.,
33. Fox P., Elgamal A., Pradel D., Isaacs D., Stone M., and Wong S. (2013), ASCE GeoCongress 2013: Stability and Performance of Slopes and Embankments III, GSP 231, 1188-1195.
34. "Slope Stability Issues After Mw 9.0 Tohoku Earthquake", Tiwari B., Wartman J., and Pradel D. (2013), ASCE Geo-Congress 2013: Stability and Performance of Slopes and Embankments III, GSP 231, 1594-1601.
35. "Regional Patterns of Landslides from the Tohoku, Japan Earthquake", Abstract, Wartman, J., Dunham, L., Tiwari, B., and Pradel, D. (2013), presented at 2013 SSA Annual Meeting, Salt Lake City, Utah, 17-19 April.
36. "Failure of Fujinuma Dam During the 2011 Tohoku Earthquake", Pradel D., Wartman J., and Tiwari B. (2012), 9th International Conference on Urban Earthquake Engineering/ 4th Asia Conference on Earthquake Engineering March 6-8, 2012, Tokyo, Japan.
37. "Performance of Slopes and Dams on the Mw 9.0 Tohoku, Japan Earthquake", Tiwari B., Pradel D., and Wartman J. (2012), 2nd International Conference on Performance-
38. Based Design in Earthquake Geotechnical Engineering, Taormina, Italy.

39. "Landslides Triggered by the Great Tōhoku, Japan Earthquake", Abstract, Wartman, J., Dunham, L., Tiwari, B., and Pradel, D. (2012), NH13A-1585 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
40. "Design of Drilled Shafts to Enhance Slope Stability", Pradel D., Garner J. and Kwok A. (2010), ASCE GSP 208, Earth Retention Conference 3, Bellevue, 920-927.
41. "Landslide Stabilization Using Drilled Shafts", Pradel D. and Carillo R. (2008), Proc. 1st Int. FLAC/DEM Symposium, Minneapolis.
42. "Seismic Response Analyses for the Silicon Valley Rapid Transit Project", Chiu P., Pradel D. Et al. (2008), ASCE GSP 181, Geotechnical Earthquake Engineering and Soil Dynamics IV, Sacramento, 1-10.
43. "Engineering Implications of Ground Motions on Welded Steel Moment Resisting Frame Buildings", Pradel D. (2006), Soil Stress-Strain Behavior, Measurement, Modeling and Analysis, Springer, Roma, 937-947.
44. Active Pressure Distribution in Cohesive Soils", Pradel D. (1994), Proc. of the XXth International Conference of Soil Mechanics and Foundation Engineering, New Delhi, Vol. 2, 795-798.
45. "Instability and Plastic Flow of Soils", Pradel D. (1991), ASCE Engineering Mechanics Specialty Conference, Columbus OH, 1174-1178.
46. "Plastic Flow and Instability of Granular Materials", Pradel D. and Lade P.V. (1989), "Proc. of the IIIrd International Symposium on Numerical Models in Geomechanics, Niagara Falls, 9-16.
47. "Comparison of Single and Double Hardening Models for Frictional Materials", Lade P.V. and Pradel D. (1989), Proc. of the IIIrd International Symposium on Numerical Models in Geomechanics, Niagara Falls, 147-154.
48. "Instability of Sand Under Applied Shear Stresses", Pradel D. and Lade P.V. (1989), Proc. of the XXth International Conference of Soil Mechanics and Foundation Engineering, Rio de Janeiro, 8/18: 743-748.
49. "Model with Multiple Mechanisms for Anisotropic Behaviors of Sands", Pradel D. (1988), Proc. of the VIth International Conference on Numerical Methods in Geomechanics, Innsbruck, 503-508.
50. "On Modeling of Inherent Anisotropy of Sands", Pradel D., Ishihara K. and Gutierrez M. (1987), Proc. of the XXIIth Japan National Conference on Soil Mechanics and Foundation Engineering, Niigata, 359-362.
51. "Elastoplastic Model for Anisotropic Behavior of Sands", Pradel D. and Ishihara K. (1987), Proc. of the IIInd International Conference on Constitutive Laws for Engineering Materials, Tucson, 631-638.

Standards and Committee Publications

52. "Geotechnical Impacts of Hurricane Maria in Puerto Rico", Geotechnical Extreme Events Reconnaissance (2018), NSF-GEER Report No.GEER-057.
53. "Seismic Evaluation and Retrofit of Existing Buildings", American Society of Civil Engineers (2017): ASCE/SEI 41-13.
54. "ASCE Geo-Congress 2013: Stability and Performance of Slopes and Embankments III", Meehan C., Pradel D., Pando M., and Labuz J. (Editors), ASCE/GI GSP 231.
55. "Seismic Rehabilitation of Existing Buildings" American Society of Civil Engineers (2007): ASCE/SEI 41-06.
56. "Seismic Evaluation of Existing Buildings" American Society of Civil Engineers (2003): " ASCE/SEI 31-03.
57. "Recommended Procedures for Implementation of DMG Special Publication 117 Guidelines for Analyzing and Mitigating Landslide Hazards in California." ASCE/Southern California Earthquake Center (2002).

Selected Geotechnical Engineering Projects

Regional Connector Transit Corridor, Los Angeles, CA

Dr. Pradel supervised and performed dynamic geomechanical numerical analyses for the planned Regional Connector Transit Corridor light rail project in downtown Los Angeles. He performed numerous seismic numerical analyses to evaluate the soil-structure interaction of multiple cut-and-cover stations and U-section structures. Results of the analyses included the seismic racking displacements of the structures and seismic earth pressures on the walls, as well as bending moments and shear forces on walls and slabs.

Bay Area Rapid Transit Berryessa Extension, San Jose, CA

Dr. Pradel supervised and performed static and dynamic geomechanical numerical analyses for a proposed design alternative using Lightweight Cellular Concrete (LCC) as backfill for the MSE walls along a portion of Bay Area Rapid Transit (BART) extension into Silicon Valley. He conducted static numerical analyses to evaluate the bearing capacity, settlement, and stresses of the LCC MSE walls, and dynamic numerical analyses to evaluate the seismic soil-structure interaction of the LCC MSE walls, including dynamic settlements and stresses within the LCC.

Evergreen Line Rapid Transit, Vancouver, British Columbia

Dr. Pradel performed seismic deformation analyses including soil-structure interaction for the planned skytrain system in Vancouver, British Columbia. Dynamic numerical analyses using FLAC were performed to estimate ground deformations and the structural demands

resulting from soil-structure interaction (SSI) between the piles and surrounding soil from numerous different ground motions, as well as to evaluate the impact of the liquefiable soils present at the site.

Mandeville Canyon Landslide, Los Angeles, CA

Dr. Pradel managed the investigation and remedial stabilization of a landslide on a residential property in Los Angeles, California. He performed and supervised field inspections, subsurface investigations, and designed a remedial slope repair that included a pile-supported retaining wall as well as grading on the slope below. Dr. Pradel was the Engineer of Record for the repair and managed the construction inspection services during the stabilization.

Silicon Valley Rapid Transit, San Jose, CA

Dr. Pradel performed static analyses using finite differences (FLAC) for the design of a deepsoil-mixing cut-off wall and braced excavation system of the proposed cut-and-cover station and portal structures for the tunnel alignment. He performed numerical analyses to estimate the structural loads developed during excavation and construction of the support system. Dr. Pradel also performed seismic ground response analyses to develop input ground motions and dynamic soil properties for soil-structure interaction analyses. Results are published in ASCE Geotechnical Special Publication 181, Geotechnical Earthquake Engineering and Soil Dynamics IV.

Estrondo Landslide Stabilization, Encino, CA

Dr. Pradel managed and coordinated the investigation and stabilization of a large landslide on 3 properties. Dr. Pradel was the Engineer of Record for the stabilization, designing a system of caisson supported retaining walls with tiebacks in the upper row, a permanent soil buttress, and drainage gallery for subsurface dewatering. Dr. Pradel also performed numerical analyses of the landslide and repair, using FLAC to model the soil-structure interaction.

Melia Landslide Stabilization, Los Angeles, CA

Dr. Pradel was originally retained as an expert witness to investigate a large landslide affecting several homeowners in a secluded hillside area in Los Angeles, and then was hired as engineer of record to repair the landslide. Dr. Pradel managed and coordinated the site reconnaissance, subsurface investigation and monitoring of the slope movement with slope inclinometers. He performed numerical analyses using the program FLAC to determine the feasibility of stabilization of the ancient landslide using a combination of landslide removal, pile supported retaining walls, and a fill buttress. The numerical modeling included both the temporary and permanent stability of the affected properties. During repairs, Dr. Pradel was the engineer of record for the slope stabilization which included construction of a fill buttress and retaining walls for the stabilization of the Landslide.

Metro Gold Line, South Pasadena, CA

Dr. Pradel performed a vibration study for the Metro Gold Line light rail extension into South Pasadena. He investigated claims of distress on nearby residences from construction activities and train vibrations, performed vibration testing at various distances and locations along the Gold Line tracks.

Forensic Investigations of Residential Distress for Insurance Companies, Various Locations in CA

Dr. Pradel managed and performed numerous forensic inspections of distress at residential properties in California on behalf of insurance companies. He performed site inspections, field measurements, document review and research, wrote causation reports, and prepared remedial repair recommendations as requested. He performed inspections of structural distress related to water intrusion, seepage, soil creep, tree roots, earthquakes, windstorms, and construction vibrations.

La Conchita Landslide, Ventura County, CA

As an expert witness for Alvis vs. La Conchita, Dr. Pradel performed site reconnaissance, review of geologic and geotechnical investigations performed at the site, performance of a subsurface investigation, monitoring of the slope, meetings with other experts, geologic mapping, and research and review of technical documents. He performed geotechnical and slope stability analyses, determined causes of the landslide, prepared preliminary and conceptual repair recommendations, and testified in depositions and trial.

Linden Terrace Landslide, Calabasas, CA

Dr. Pradel performed seismic analyses to determine the ground motions that affected the landslide during the 1994 Northridge Earthquake and Finite Element Analyses, using the software QUAD4M, to predict the magnitude of earthquake induced displacements. The comparison between observed and predicted movements was published in the Journal of Geotechnical and Geoenvironmental Engineering (ASCE), Vol. 131, No. 11, 1360-1369.

Strathern Landfill, Los Angeles, CA

Dr. Pradel performed numerical analyses using the program FLAC to estimate the varying amounts of settlement from inert landfill material with varying depths across the site. Using these settlement estimates, Dr. Pradel recommended zones for potential redevelopment of the closed landfill and their associated conceptual foundation designs (geogrid reinforced fill mats and concrete mat foundations).

Ground Motion Studies, Various Sites, Los Angeles, CA

Following the Northridge Earthquake, Dr. Pradel performed numerous site specific ground motion studies for hundreds of sites located across the Los Angeles region. He researched ground motion recordings, selected dynamic soil properties, and developed site-specific ground motions and response spectra to provide to structural engineers. He has also investigated the effects of earthquakes on many tall structures. He published his findings on

the correlation between ground motions and structural damages using a database of over 200 steel buildings. His findings were published in 2006 at the “Soil Stress-Strain Behavior, Measurement, Modeling and Analysis” conference in Rome.

Murrieta Creek Fault, Temecula Valley, CA

Dr. Pradel performed a study using Finite Element Analyses to predict the area of influence of the regional wetting induced (hydro-consolidation) subsidence. Finite Element predictions included determination of the likely location of ground extension/cracking and determination of the magnitude of settlement. He also designed several mitigation measures.

Sinaloa Dam, Simi Valley, CA

Dr. Pradel performed a feasibility study for the improvement/reconstruction of the dam, including subsurface characterization and testing, seepage, and stability analyses (static, dynamic and rapid drawdown conditions).

Sacred Falls, Oahu, HI

Dr. Pradel worked for the State of Hawaii and performed a geotechnical investigation of the rock fall that killed several people in the Sacred Falls Park. He also performed a feasibility study of potential mitigation and remediation techniques for the State Park.

Geotechnical Investigation, Tokyo, Japan

Geotechnical investigation of the causes of settlement and design of remediation using piles for a tract of homes near Tokyo, Japan (for American Homes of Japan).

Post-Earthquake reconnaissance

Dr. Pradel has been part of reconnaissance teams investigating the effects of the 1994 Northridge,

2003 San Simeon (a.k.a., Paso Robles), 2010 Eureka, 2011 Tohoku, 2014 Napa, and 2015 Gorkha (a.k.a, Nepal Earthquakes).

His findings have been reported in ASCE Journal and Conference papers, and/or reports (including repair recommendations) for his clients, and he has participated in various ASCE seismic hazard mitigation committees (referenced in the publications section below).

Construction Vibration Studies for Public Works Projects at Various Locations in Southern California and Nevada. (2009-2011).

Dr. Pradel performed construction vibration monitoring for a contractor performing public roadway and bridge improvements at various locations in Nevada and Southern California. He performed investigations of adjacent structures and buildings, and recorded vibration levels from construction activities in order to determine if the threshold limits were exceeded and the potential for structural distress.

EL Cajon Arch Dam, Honduras. (1982-1984).

Dr. Pradel performed static and dynamic analyses using Finite Elements for the design of the bottom outlet and elevator towers. After a portion of the upper left abutment was lost during blasting during construction, Dr. Pradel performed numerical analyses to verify that stress redistribution would not significantly overstress the arch dam and rock abutments. Additional analyses included design of instrumentation to evaluate the performance of the grout and drainage curtains and rock abutments.

Celite Dam Replacement Spillway, Lompoc, CA. (2003).

When a replacement spillway was necessary for the Celite dam Dr. Pradel performed a study to select a new location and directed a subsurface investigation for the geotechnical design of the spillway and hydraulic structures.

Paute Mazar Gravity Dam, Ecuador. (1983-1984).

Dr. Pradel performed static and dynamic analyses for the stability of the rock abutments. He used Finite Element results to evaluate the stresses and water pressures in the rock mass and performed three-dimensional rock mechanics stability analyses to determine the potential for three-dimensional discrete geologic block failures in the rock abutments.

Eposson Dam, Switzerland (1982-1984).

Eposson dam is a 590-foot high double curvature arch dam in Switzerland. Dr Pradel performed a yearly inspection and worked on the feasibility study to raise the dam by building an additional concrete arch connected to the existing dam with tiebacks.

Yuracmayo Earth Dam, Peru. (1982-1984).

Dr. Pradel performed numerical deformation analyses to evaluate the dynamic performance of the dam and predict displacements of the dam under various Earthquake scenarios. The large predicted displacements resulted in significant changes to the dam cross-section to reduce the potential for a major failure due to seismic events.