Curriculum Vitae

Edward Kavazanjian, Jr., Ph.D., P.E., D.GE, Dist.M.ASCE, NAE

Regents Professor and Ira A. Fulton Professor of Geotechnical Engineering
Director, Center for Bio-mediated and Bio-inspired Geotechnics (CBBG)
School of Sustainable Engineering and the Built Environment, Arizona State University
Tel: +1 (480) 467-9426 Email:edkavy@asu.edu

Education:

1978	Ph.D.	University of California, Berkeley: Civil/Geotechnical Engineering
1975	M.S.	Massachusetts Institute of Technology: Civil/Geotechnical Engineering
1973	B.S.	Massachusetts Institute of Technology: Civil Engineering

Honors

2018	Distinguished Member, ASCE
2015	Regents Professor
2013	National Academy of Engineering

Academic Experience

2010-	Professor, Arizona State University: Civil and Environmental Engineering
2004-2010	Associate Professor, Arizona State University: Civil and Env. Eng.
2006-2008	Interim Chair, Arizona State University: Civil and Env. Eng.
2003-2004	Professor (Research), U. Southern California: Civil and Env. Eng.
2002-2004	Lecturer (Part Time), U. California, Los Angeles: Civil and Env. Eng.
2002	Visiting Lecturer, Monash University, Melbourne, Australia: Civil Eng.
1986-1987	Adjunct Professor, Polytechnic University, New York, NY: Civil Eng.
1978-1985	Assistant Professor, Stanford University, Palo Alto, California: Civil Eng.

Industrial Experience

2002-2004	Consulting Engineer, Huntington Beach, CA
1995-2002	Principal, GeoSyntec Consultants, Huntington Beach, CA
1992-1995	Associate, GeoSyntec Consultants, Huntington Beach, CA
1990-1992	Executive Vice President, MAA Engineering, Los Angeles, CA
1988-1990	Associate, The Earth Technology Corporation, Long Beach, CA
1987-1988	Supervising Geotechnical Engineer, Parsons Brinckerhoff, Inc., NY, NY
1985-1987	Lead Geotechnical Engineer, Parsons Brinckerhoff, Inc., NY, NY

Professional Registrations and Certifications

Registered Professional Engineer, California, No. C031834
Registered Geotechnical Engineer, California, No. GE002103
Registered Civil Engineer, Arizona, No. 28043
Registered Professional Engineer, Washington, No. 34612
Diplomate, Academy of Geo Professionals, Certificate Number 1007

Principal Areas of Teaching and Research

Teaching: Soil Mechanics, Foundation Engineering, Geotechnical Earthquake Engineering, Experimental Soil Mechanics, Geoenvironmental Engineering, Geosynthetics Design

Research: Biogeotechnical methods for soil improvement, static and dynamic properties of municipal solid waste, seismic design of waste containment facilities, earthquake engineering for transportation facilities, geologic hazard evaluation and mitigation, post-closure use of landfills and brownfield site development, analysis and design of earth-source heat pump systems.

Professional Qualifications

Professor Kavazanjian returned to academia at ASU in August 2004 after 20 years in engineering practice. He is internationally recognized for his work on the mechanical properties of municipal solid waste, analysis and design of waste containment systems, geotechnical earthquake engineering, and biogeotechnical engineering. In February 2013 he was elected to the National Academy of Engineering in recognition of his contributions to design of waste containment systems and geotechnical earthquake engineering. In August 2015, he became director of the Center for Bio-mediated and Bio-inspired Geotechnics (CBBG), a consortium of ASU, the University of California at Davis, New Mexico State University, and Georgia Institute of Technology funded by the National Science Foundation with $18.5 million dollars for 5 years.

Professor Kavazanjian was elected a Distinguished Member of the American Society of Civil Engineers (ASCE), the Society's highest honor, in 2018. He is the recipient of the 2011 Karl Terzaghi Award from ASCE for his contributions to soil mechanics and earthworks engineering through his publications in ASCE on landfill engineering and waste containment systems. He was also the recipient of the 2010 Thomas A. Middlebrooks Award from ASCE for contributions to geotechnical engineering for his paper on "*Shear Strength of Municipal Solid Waste*" and he received the 2009 Ralph B. Peck Award from ASCE for contributions to landfill engineering through published case histories. In February 2009, he was recognized as the Engineering Educator of the year by the Phoenix Chapter of the National Society for Professional Engineers.

Professor Kavazanjian is very active in professional service activities on the local and national level. He currently serves as Past-President of the U.S. University Council for Geotechnical Education and Research (USUCGER), representing the 125+ institutions of higher learning in the United States that teach and conduct research in geotechnical engineering. He also serves on the joint sub-committee on GeoSeismic Concernsof the Transportation Research Board committees on Seismic Design and Performance of Bridges and the subcommittee on. Professor Kavazanjian is a Past-President of the Geo-Institute (G-I), representing the 11,000+ members of ASCE who consider themselves geotechnical engineers. His professional activities also include past service

on the Board of Earth Sciences and Resources of National Research Council (NRC) of the National Academies of Science Engineering and Medicine (NASEM) as chair of the Committee on Geological and Geotechnical Engineering and on numerous Geo-Institute committees, councils, and task forces.

Professor Kavazanjian is widely recognized for his work on ground improvement. His current research work in this area is focused upon the emerging field of biogeotechnical methods of ground improvement. He is Director of Center for Bio-mediated and Bio-inspired Geotechnics (CBBG), a NSF 3rd Generation Engineering Research Center. His work in this area includes research on *Engineering Applications of Enzyme Induced Carbonate Precipitation (EICP)*, *Microbially-Induced Cementation and Desaturation of Sands by Denitrification for Mitigation of Earthquake-Induced Soil Liquefaction, Enhancement of Vertical Elements for Foundation Support by Ureolytic Carbonate Precipitation, and Mitigation of Fugitive Dust via Enzyme Induced Carbonate Precipitation.* He was a co-principal investigator for the NSF-sponsored Second International Workshop on Biogeotechnical Engineering at Cambridge University, England, in September 2011. His past research activities have included work on the time-dependent behavior of soft clay and the behavior of embankments on compressible foundations. From 2003 to 2005 he served on the NRC study committee on *Geological and Geotechnical Engineering for the New Millennium: Opportunities for Research and Innovation* (National Academies Press). His consulting experience includes geotechnical investigation, analysis, and design for major infrastructure projects, including highways, tunnels, bridges, pipelines, port and harbor facilities, and landfills. He has served as geotechnical project manager or lead geotechnical engineer for design of foundations for cable-stayed bridges, marginal wharves, and rail maintenance facilities, for design and construction of sunken and driven tube tunnels in soil, for ground improvement using surcharges and prefabricated vertical drains, dynamic compaction, and stone columns, and for design of tie-back and reinforced earth retaining walls and solid and hazardous waste containment systems.

Professor Kavazanjian is also widely recognized for his work on the properties of municipal solid waste and on analysis, design, and construction of landfills and waste containment systems. In addition to receipt of the Terzaghi, Peck, and Middlebrooks Awards from ASCE for contributions in this field, he is co-author of the Environmental Protection Agency guidance document on *RCRA Subtitle D (258) Seismic Design Guidance for Municipal Solid Waste Landfill Facilities*. He served on the U.S. National Research Council (NRC) study committee that authored the 2007 report on *Assessment of the Performance of Engineered Barriers for Waste Containment* (National Academies Press). In May 2012, he delivered a state-of-the-art lecture on *Performance Based Seismic Design of Geosynthetic Liner Systems* at the Second International Conference on Performance Based Earthquake Geotechnical Engineering in Taormina, Sicily. In November 2010, he delivered a keynote lecture on *Sustainable Landfilling* at the 6th International Conference on Environmental Geotechnics in New Delhi. He was a state-of-the-art speaker on *Geosynthetics Barriers for Environmental Protection at Landfills* at the 8th International Conference on

Geosynthetics in Yokohama in September 2006, and delivered a keynote address on *Waste Mechanics: Recent Findings and Unanswered Questions* at the GeoShanghai International Conference in June 2006. He has also delivered invited state of the art papers at national and international conferences, symposiums, and workshops on seismic design of landfills, post-closure development of landfills, and design of landfill covers in arid and semi-arid environments. His practical experience includes analysis and design for liquid and gas containment for lined and unlined waste units and landfill closure and post-closure activities and he has served as engineer-in-responsible-charge for design for numerous municipal solid waste (MSW) and hazardous waste landfills. Professor. Kavazanjian also has extensive experience with hazardous waste landfills and closure of Superfund and RCRA remedial action sites. His recent work includes development of a state of the art method for P*erformance Based Design of Geosynthetic Liner Systems* and on *Strain Concentrations in Geomembranes due to Seams and Scratches*. He previously served as Principal Investigator on NSF projects on *Performance of Landfills in the Northridge Earthquake* and on *Mechanical Properties of Municipal Solid Waste* and from the California Integrated Waste Management Board on *Statewide (California) Evaluation of Landfill Compliance*.

Professor Kavazanjian has considerable expertise in geotechnical earthquake engineering beyond his work on seismic design of landfills and waste containment systems. He chaired the recent NASEM study on *State of the Art and Practice for Assessment of Earthquake-Induced Soil Liquefaction and its Consequences*. He is lead author of the 2011 guidance document on *LRFD Seismic Analysis and Design of Transportation Geotechnical Features and Structural Foundations* and its 1998 predecessor *Geotechnical Earthquake Engineering for Highways* for the U.S. Federal Highway Administration (FHWA). He serves as the lead instructor for the National Highway Institute training course on geotechnical earthquake engineering for highway systems. He delivered a keynote address on *Recent Advances in Geotechnical Earthquake Engineering for Transportation Facilities* at the International Conference on Earthquake Engineering on the First Anniversary of the Wenchuan Earthquake in Chengdu, China, in May 2009. Professor Kavazanjian is past-chai and still serves on the *GeoSeismic Concerns* subcommittee of the Transportation Research Board *Committee on Seismic Design and Performance of Bridges*. He has served as principal geotechnical engineer for seismic design of numerous bridges, viaducts, retaining walls, port and harbor structures, and industrial facilities.

Honors and Awards

2018 Elected Distinguished Member, American Society of Civil Engineers (ASCE)

2015 Appointed Regents Professor, Arizona State University

2013 Elected to the National Academy of Engineering, Feb., 2013

2011 *Karl Terzaghi Award*; American Society of Civil Engineers, for contributions to soil mechanics and earthwork engineering through his ASCE publications on landfill engineering and design and construction of waste containment systems.

2010 *Thomas A. Middlebrooks Award*, American Society of Civil Engineers, for contributions to geotechnical engineering in an ASCE publication, for the paper "*Shear Strength of Municipal Solid Waste*" in the Journal of Geotechnical and Geoenvironmental Engineering

2009 *Ralph P. Peck Award*, American Society of Civil Engineers, for contributions that advanced the state of practice of landfill engineering through published case histories.

2009 Greater Phoenix Area E-Week Outstanding Engineering

PUBLICATIONS

Legend

(*)	Corresponding Author
Bold Font	**ASU PhD Student**
Underline	ASU Master's Student
(#)	ASU Undergraduate Student
(x)	ASU Post-Doctoral Researcher
(z)	ASU Visiting Scholar
(+)	Equal Contribution

Refereed Archival Journal Publications

Total Refereed Journal Publications	55
Journal Publications from work at ASU	32
Journal Publications from work prior to ASU	23

1. **O'Donnell, S.T.***[+], Rittmann, B.E.[+], and Kavazanjian, E., Jr.[+] (2019) "Factors Controlling Microbially Induced Desaturation and Precipitation (MIDP) via Denitrification during Continuous Flow, *Geomicrobiology Journal*, published online March, 16 pages, https://doi.org/10.1080/01490451.2019.1581858

2. **Almajed, A.**[+], Tirkolaei, H.K.*[+ x], Kavazanjian, E., Jr.[+], and Hamdan, N.[+] (2019) "Enzyme Induced Biocementated Sand with High Strength at Low Carbonate Content", *Scientific Reports, Vol*. 9: 1135, https://doi.org/10.1038/s41598-018-38361-1, 6 pages

3. **Yang, P.**,[+] Kavazanjian, E., Jr.[+], and Neithalath, N.[+] (2019) "Particle-Scale Mechanisms in Undrained Triaxial Compression of Bio-Cemented Sands: Insights from 3D DEM Simulations with Flexible Boundary," *International Journal of Geomechanics*, Vol. 19, No. 4, pp. 04019009-1 – 04019009-12, April, DOI: 10.1061/(ASCE)GM.1943-5622.0001346

4. **Almajed, A.**[+], Khodadadi Tirkolaei, H.[x+], and Kavazanjian, E., Jr.[+] (2018) "Base line Investigation of Enzyme-Induced Carbonate Precipitation," *Journal of Geotechnical and Geoenvironmental Engineering*, published online, DOI: 10.1061/(ASCE)GT.1943-5606.0001973, August

5. Kavazanjian, E., Jr.*[+], **Wu, X**.[+], **Arab, M**.[+], and Matasovic, N.[+] (2018), "Development of a Numerical Model for Performance-based Design of Geosynthetic Liner Systems," Geotextiles and Geomembranes, Volume 46, Issue 2, April 2018, Pages 166–182 https://doi.org/10.1016/j.geotexmem.2017.11.005

6. **O'Donnell, S. T.** *[+], Kavazanjian, E., Jr.[+], and Rittmann, B.E.[+] (2017) "Liquefaction Mitigation via Microbial Denitrification as a Two-Stage Process, Stage I: Desaturation," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 143, No. 12, DOI:10.1061/(ASCE)GT.1943-5606.0001818, December

7. **O'Donnell, S. T.** *[+], Kavazanjian, E., Jr.[+], and Rittmann, B.E.[+] (2017) "Liquefaction Mitigation via Microbial Denitrification as a Two-Stage Process, Stage II: MICP," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 143, No. 12, DOI: 10.1061/(ASCE)GT.1943-5606.0001806, December.

8. Kavazanjian, E., Jr.*[+], Andresen, J.[+], and **Gutierrez, A**.[+] (2017) "Experimental Evaluation of HDPE Geomembrane Seam Strain Concentrations," *Geosynthetics International*, Vol. 24, No. 4, pp. 333-342, DOI: 10.1680/jgein.17.00005, August

9. Kavazanjian, E., Jr.*[x+] and **Gutierrez, A.** [+] (2017) "Large Scale Centrifuge Test of a Geomembrane-lined Landfill Subject to Waste Settlement and Seismic Loading" *Waste Managemen*t, Vol. 68, pp. 252-262, DOI 10.1016/j.wasman.2017.01.029, October

10. **Yang, P**.[+]*, **O'Donnell, S.T.** [+], Hamdan, N.[+x], Kavazanjian, E., Jr.[+], and Neithalath, N.[+] (2017) "3D DEM Simulations of Drained Triaxial Compression of Sand Strengthened using Microbially Induced Carbonate Precipitation," *International Journal of Geomechanics*, Vol. 17, No. 6, DOI: 10.1061/(ASCE)GM.1943-5622.0000848, June

11. **Zhao, Z**.*[+], Hamdan, N. [+x], Shen, L. [+], Nan, H. [+#], **Almajed, A.** [+], Kavazanjian, E., Jr. [+], He, X.*[+] (2016) "Biomimetic Hydrogel Composites for Soil Stabilization and Contaminant Mitigation," *Environmental Science and Technology*, Vol. 50, No. 22, pp. 12401-12410, DOI: 10.1021/acs.est.6b01285, October

12. Lin, H. *[+], Suleiman, M.T.*[+], Jabbour, H. [+], Brown, D.G. [+], and Kavazanjian, E., Jr. [+] (2016) "Enhancing the Axial Compression Response of Pervious Concrete Ground Improvement Piles Using Bio-Grouting ," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 142, No. 10, DOI: 10.1061/(ASCE)GT.1943-5606.0001515 , October

13. Hamdan, N.*[+x], Zhao, Z[+x]., Mujica, M. [+#], Kavazanjian, E., Jr. [+], and He, X. [+] (2016) "Hydrogel-assisted Enzyme Induced Carbonate Mineral Precipitation," *Journal of Materials in Civil Engineering*, Vol. 28, No. 10, DOI: 10.1061/(ASCE)MT.1943-5533.0001604, October

14. **Hamdan, N.***[+] and Kavazanjian, E., Jr. [+] (2016) ""Enzyme Induced Carbonate Mineral Precipitation for Fugitive Dust Control," *Geotechnique*, V. 66, No. 7, pp. 546-555, DOI: http://dx.doi.org/10.1680/jgeot.15.P.168

15. Lin, H.*[+], Suleiman, M.T. [+], Brown, D.G. [+], and Kavazanjian, E., Jr. [+] (2016) "Mechanical Behavior of Sands Treated by Microbially Induced Carbonate Precipitation," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 142, No. 2, DOI: http://dx.doi.org/10.1061/(ASCE)GT.1943-5606.0001383

16. **Ghanat, S.T.***[+], Kavazanjian, E., Jr. [+], and Arrowsmith, R.[+] (2015) "Seismic Source Characterization for Greater Phoenix Area Earthquake Hazard Assessment," *Environmental and Engineering Geoscience*, Vol. 21, No. 3, pp. 211-222, DOI: 10.2113/EEG-1618

17. Ramiah, B.J.* +, Ramana, G.V.[+], Kavazanjian, E., Jr.[+], Matasovic, N.[+], and Bansal, B.K.[+] (2015) "Empirical Model for Shear Wave Velocity of Municipal Solid Waste In Situ," *Journal of Geotechnical and Geoenvironmental Engineering*, DOI: http://dx.doi.org/10.1061/(ASCE)GT.1943-5606.0001389

18. **O'Donnell, S.T.***[+] and Kavazanjian, E., Jr [+] (2015) "Stiffness and Dilatancy Improvements in Uncemented Sands Treated through MICP," *Journal of the Geotechnical and Geoenvironmental Engineering*, Vol. 141, No. 11, November, p. 1943; DOI: 10.1061/(ASCE)GT.1943-5606.0001407, 02815004

19. Giroud, J.P.*[+] and Kavazanjian, E., Jr. [+] (2014) "Degree of Turbulence of Flow in Geosynthetic and Granular Drains," *J. Geotech. Geoenviron. Eng.*, Vol. 140, No. 5, May, pp. 06014001-1 - 06014001-5, DOI: 10.1061/(ASCE)GT.1943-5606.0001086,

20. Kavazanjian, E., Jr.*[+], Matasovic, N. [+], and Bachus, R.C. [+] (2013) "The 11th Peck Lecture: Pre-Design Geotechnical Investigation for the OII Superfund Site Landfill," *J. Geotech. Geoenviron. Eng.*, 139(11), 1849–1863, doi:10.1061/(ASCE)GT. 1943-5606.0000923

21. DeJong, J.T.* [+], Soga, K.S[+]., Kavazanjian, E. [+], Burns, S. [+], van Paassen, L. [+], Al Qabany, A. [+], Aydilek, A. [+], Bang, S.S. [+], Burbank, M. [+], Caslake, L. [+], Chen, C.Y. [+], Cheng, X[+]., Chu, J. [+], Ciurli, S. [+], Fauriel, S. [+], Filet, A.E. [+], Hamdan, N. [+], Hata, T. [+], Inagaki, Y. [+], Jefferis, S. [+], Kuo, M. [+], Laloui, L. [+], Larrahondo, J. [+], Manning, D.A.C. [+], Martinez, B. [+], Montoya, B.M. [+],

Nelson, D.C. [+], Palomino, A. [+], Renforth, P. [+], Santamarina, J.C. [+], Seagren, E.A. [+], Tanyu, B.[+], Tsesarsky, M. [+], & Weaver, T. [+] (2013) "Biogeochemical processes and geotechnical applications: progress, opportunities, and challenges", *Geotechnique*, Vol. 63, No. 4, pp. 287-301, DOI: http://dx.doi.org/10.1680/geot.SIP13.P.017

22. Giroud, J.P.*[+], Gourc, J.P. [+], and Kavazanjian, E., Jr. [+] (2012) "Laminar and Non-laminar Flow in Geosynthetic and Granular Drains," *Geosynthetics International*, Vol 19, No. 2, pp. 160 – 182, http://dx.doi.org/10.1680/gein.2012.19.2.160

23. Giroud, J.P.*[+], Gourc, J.P. [+], and Kavazanjian, E., Jr. [+] (2012) "Effect of Flow Boundaries on Two Physical Characteristics of Geosynthetic Drains," *Geosynthetics International*, Vol 19, No. 2, pp. 147 – 159, DOI: http://dx.doi.org/10.1680/gein.2012.19.2.147

24. Yuan, P. [+z], Kavazanjian, E., Jr.*[+], Chen, W. [+], and Seo, B.[+z] (2011) "Compositional Effects on the Dynamic Properties of Municipal Solid Waste," *Waste Management*, V. 31, pp. 2380-2390

25. Allen, J. [+], Ashford, S. [+], Bowman, E. [+], Bradley, B. [+], Cox, B. [+], Cubrinovski, M.*[+], Greene, R.A. [+], Hutchinson, T[+]., Kavazanjian, E. [+], Orense, R. [+], Pender, M. [+], Quigley, M. [+], and Wotherspoon, L[+]. (2010) "Geotechnical Reconnaissance of the 2010 Darfield (Canterbury) Earthquake," *Bulletin of the New Zealand Society for Earthquake Engineering*, V. 43, No. 4, pp. 243-320

26. Zekkos, D.*[+], Kavazanjian, E., Jr. [+], Bray, J.D. [+], Matasovic, N. [+], and Reimer, M. R[+]. (2010) "Physical Characterization of Municipal Solid Waste for Geotechnical Purposes," ASCE *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 136, No. 9 (September), pp. 1231-1241

27. **Koo, D-H.**[+], Ariaratnam, S.T.*[+], and Kavazanjian, E., Jr. [+] (2009) "Development of a Sustainability Assessment Model for Underground Infrastructure Projects," *Journal of the Canadian Society of Civil Engineering*, Vol. 36, pp. 765-776

28. Bray, J.D.*[+], Zekkos, D. [+], Kavazanjian, E. Jr. [+], Athanasopoulos G. A. [+], and Reimer, M. [+] (2009) "Shear Strength of Municipal Solid Waste," ASCE *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 135, No. 6 (June), pp. 709-722

29. Williams, E.[+], **Kahhat, R.***[+], Allenby, B. [+] Kavazanjian, E., Jr. [+] B., Kim, J. [+], and Xu, M. [+] (2008) "Environmental, Social, and Economic Implications of Global Reuse and Recycling of Personal Computers," *Environmental Science and Technology*, Vol. 42, No. 17, pp. 6446-6454

30. Miao, L.*[+z], Wang, X. [+], and Kavazanjian, E., Jr. [+] (2008) "Consolidation of a Double-Layered Compressible Foundation Partially Penetrated by Deep Mixed Columns," ASCE *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 134, No. 8 (August), pp. 1210-1214

31. Miao, L*[+z]., and Kavazanjian, E., Jr.[+] (2007) "Secondary Compression Features of Jiangsu Soft Marine Clay," *Marine Georesources and Geotechnology*, Vol. 25, No. 2, April, pp. 129-144

32. Zekkos, D.*[+], Bray, J.D.[+], Kavazanjian, E. Jr. [+], Matasovic, N. [+], Rathje, E. [+], Reimer, M., [+] and Stokoe, K.H., III [+] (2006) "Unit Weight of Municipal Solid Waste" ASCE *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 132, No. 10 (October), pp. 1250-1261

33. Matasovic, N.[+] and Kavazanjian, E. Jr.*[+] (2006) "Seismic Response of a Composite Landfill Cover," ASCE *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 132, No.4 (April), pp. 448-455

34. Matasovic, M. [+], Kavazanjian, E., Jr., De, A., and Dunn, R.J. (2005) "CPT-based Seismic Stability Assessment of a Hazardous Waste Site," *International Journal of Soil Dynamics and Earthquake Engineering*, Vol. 26, No. 2 (February), pp. 201-208

35. Merry, S.M., Kavazanjian, E., Jr., and Fritz, W. (2005) "Reconnaissance of the July 10, 2000 Payatas Landfill Failure," *Journal of Constructed Facilities*, ASCE, Vol. 19, No. 2, pp. 100-107

36. Kavazanjian, E., Jr., (2004) "The use of geosynthetics for archeological sites reburial," *Conservation and Management of Archaeological Sites*, Vol. 6, No. 3 and 4, James and James (Science Publishers), Ltd., pp. 377-394

37. Giroud, J.P., Thiel R.S., and Kavazanjian, E. Jr. (2004) "Hydrated Area of a Bentonite Layer Between Two Geomembranes," *Geosynthetics International*, Vol. 11, No. 4, Thomas Telford, pp. 330-354

38. Bachus, R.C., Houlihan, M.F., Kavazanjian, E., Jr. Isenberg, R., and Beech, J.F. (2004) "Bioreactor Landfill Stability: Key Considerations", MSW Management, Vol. 14, No. 6, pp. 82-90.

39. Zornberg, J.G., and Kavazanjian, E., Jr. (2001). "Prediction of the Performance of a Geogrid-Reinforced Slope Founded on Solid Waste." *Soils and Foundations*, Vol. 41, No. 6, December

40. Matasovic, N., Kavazanjian, E., Jr., and Giroud, J.P., (1998) "Newmark Seismic Deformation Analysis for Geosynthetic Covers," *Geosynthetics International,* International Geosynthetics Society, Vol. 5, Nos. 1 - 2, pp. 237-264.

41. Matasovic, N. Kavazanjian, E., Jr., and Anderson, R.L. (1998), "Performance of Solid Waste Landfills in Earthquakes," *Earthquake Spectra,* EERI, Vol. 14, No. 2, pp. 319-334.

42. Matasovic, N. and Kavazanjian, E., Jr. (1998), "Cyclic Characterization of OII Landfill Solid Waste," *Journal of Geotechnical and Geoenvironmental Engineering,* ASCE, Vol. 124, No. 3, pp. 197-210

43. Salah-Mars, S. and Kavazanjian, E., Jr. (1992), "A Virtual Surface Concept for Nested Yield Surface Plasticity," *International Journal of Numerical Methods in Geomechanics,* Vol. 16, pp. 779-796.

44. Hsieh, H-S, Kavazanjian, E., Jr., and Borja, R.I. (1990), "Double Yield Surface Cam-Clay Plasticity Model," *Journal of Geotechnical Engineering*, ASCE, Vol. 116, No. GT-9, pp. 1381-1401.

45. Borja, R.I., Hsieh, H-S., and Kavazanjian, E., Jr. (1990), "Double Yield Surface Model. II: Implementation and Verification," *Journal of Geotechnical Engineering,* ASCE, Vol. 116, No. GT-9, pp. 1402-1421.

46. Ho, C.L., and Kavazanjian, E., Jr. (1990), "Reduction Factor for Liquefaction Potential Analysis," *Soil Dynamics and Earthquake Engineering*, Vol. 9, No. 6.

47. Wang, J-N, and Kavazanjian, E., Jr. (1989), "Pore Pressure Development During Non-Uniform Cyclic Loading," *Soils and Foundation,* JSSMFE, Vol. 29. No. 2.

48. Ho, C.L., Sarmiento, J.S., and Kavazanjian, E., Jr. (1988), "Stabilization of Liquefiable Samples During Transport," *Geotechnical Testing Journal,* ASTM, Vol. II, No. 1.

49. Borja, R.I., and Kavazanjian, E., Jr. (1985), "A Constitutive Model for the Stress-Strain-Time Behavior of 'Wet' Clay," *Geotechnique,* Vol. 35, No. 3, pp.283-298

50. Kavazanjian, E. Jr., Echezuria, H., and McCann, M.W. (1985), "RMS Acceleration Hazard for San Francisco," *Soil Dynamics and Earthquake Engineering,* Vol. 4, No. 3.

51. Hadj-Hamou, T.A., and Kavazanjian, E., Jr. (1985), "Seismic Stability of Gentle Infinite Slopes," *Journal of the Geotechnical Engineering*, American Society of Civil Engineers, Vol. 111, No. GT6.

52. Kavazanjian, E. Jr., Roth, R.A., and Echezuria, H. (1985), "Probabilistic Evaluation of Liquefaction Potential for San Francisco, California," *Journal of Geotechnical Engineering*, American Society of Civil Engineers, Vol. 111, No. GT1.

53. Roth, R.A. and Kavazanjian, E. Jr., (1984), "Liquefaction Susceptibility Mapping for San Francisco," California, *Bulletin of the Association of Engineering Geologists*, Vol. XXI, No. 4.

54. Kavazanjian, E. Jr. and Mitchell, J.K. (1984), "The Time Dependence of Lateral Earth Pressures," *Journal of the Geotechnical Engineering Division*, American Society of Civil Engineers, Vol. 110, No. GT 4.

55. Kavazanjian, E., Jr. and Mitchell, J.K. (1980) "Time-Dependent Behavior of Soft Clay," Journal of the Geotechnical Engineering Division, American Society of Civil Engineers, Vol. 106, No. GT 4, pp. 611-630

Book Chapters

Total Invited Book Chapters published: 8
Invited Book Chapters while at ASU: 6
Invited Book Chapters prior to ASU: 2

1. DeJong, J.T.*[+] and Kavazanjian, E., Jr.[+] (2019) "Bio-mediated and Bio-inspired Geotechnics," in Geotechnical Fundamentals for Addressing New World Challenges, N. Lu and J.K. Mitchell (eds.), Springer-Verlag, Berlin, Heidelberg (in press)

2. Kavazanjian, E., Jr. (2014)*[+] "Seismic Design of Waste Containment Systems," in *Encyclopedia of Earthquake Engineering*, M. Beer, I.A. Kougiomtzoglu, E. Patelli, and I. S-K Au (eds.), ISBN 978-3-643-36197-5 (Online), Springer-Verlag Berlin Heidelberg, 14 pages.

3. Kavazanjian, E., Jr. *[+], **Arab, M.G.**[+], Fox, P.J.[+] and Matasovic, N.[+] (2014) "Performance Based Seismic Design of Geosynthetic Barriers for Waste Containment," in *Earthquake Geotechnical Engineering Design*, M. Maugeri and C. Soccodato (eds.), ISBN 978-3-319-03182-8, Springer-Verlag Berlin Heidelberg, pp. 363-385.

4. **Arab, M.G.**[+], Kavazanjian, E., Jr.*[+], Fox, P.J.[+], Sura, J.M.[+], and Nye, C.[+] (2013) "Strain Softening Constitutive Model for the Internal Shear Behavior of a Geosynthetic Clay Liner Subject to Cyclic Loading," in *Sound Geotechnical Research to Practice, Honoring Robert D. Holtz II*, A. Strudlein and R. Berg, eds., ASCE Geotechnical Special Publication 230, pp. 291-306, DOI: 10.1061/9780784412770.019

5. Matasovic, N.*[+], El-Sherbiny, R.[+], and Kavazanjian, E., Jr.[+] (2011) "In-Situ Measurements of MSW Properties," Chapter 6 in Geotechnical Characterization, Field Measurement, and Laboratory Testing of Municipal Solid Waste, D. Zekkos, Editor, Geotechnical Special Publication No. 209, ASCE, pp. 153-196

6. Kavazanjian, E. Jr,*[+] (2009) "Field Observations of GCL Behavior," Chapter 12 in Geosynthetic Clay Liners for Waste Containment Facilities, M. Bouazza and J. Bowders, editors, CRC Press, ISBN 9780415467339

7. Matasovic, N., Kavazanjian, E., J., Augello, A.J., Bray, J.D. and Seed, R.B. (1995), "Solid Waste Landfill Damage Caused by 17 January 1994 Northridge Earthquake," In: Woods, Mary C. and Seiple, Ray W., Eds., The Northridge, California, Earthquake of 17 January 1994: California Department of Conservation, Division of Mines and Geology Special Publication 116, Sacramento, California, pp. 221-229. Embankments, Dams, and Slopes Committee, ASCE Geo-Institute

8. Kavazanjian, E. Jr., and Hsieh, H-S (1988), "A Creep-Inclusive Non-Associative Cam-Clay Plasticity Model," Rheology and Soil Mechanics, Elsevier.

Refereed Reports and Technical Manuals

Total Refereed Reports and Technical Manuals	8
Refereed Reports and Technical Manuals from ASU	4
Refereed Reports and Technical Manuals prior to ASU	4

1. National Research Council Committee on State of the Art and Practice for Assessment of Earthquake-Induced Soil Liquefaction (2016) "State of the Art and Practice in the Assessment of Earthquake-Induced Soil Liquefaction" National Academies Press, 350 p., DOI: 10.17226/23474

2. Kavazanjian, E., Jr.*[+], Marsh, L.M.[+], and Banks, G.[+] (2012) "LRFD Seismic Analysis and Design of Transportation Geotechnical Features and Structural Foundations: Comprehensive Design Examples," Report No. FHWA-NHI-11-075, April 2012, 136 p.

3. Kavazanjian, E., Jr.* [+], Wang, J-N. [+], Martin, G.R. [+], Shamsabadi, A., [+] Lam, I. [+], Dickenson, S.E. [+], and Hung, C.J. [+] (2011) "LRFD Seismic Analysis and Design of Transportation Geotechnical Features and Structural Foundations," Geotechnical Engineering Circular No. 3, Report No. FHWA-NHI-11-032, 592 p.

4. National Research Council Committee on Assessment of the Performance of Engineered Barriers (2007) "Assessment of the Performance of Engineered Waste Containment Barriers" National Academies Press, 121 p., DOI: 10.17226/11930

5. National Research Council Committee on Geological and Geotechnical Engineering for the New Millennium: Opportunities for Research and Technological Innovation (2005) "Geological and Geotechnical Engineering for the New Millennium: Opportunities for Research and Technological Innovation," National Academies Press, 222 p., DOI: 10.17226/11558

6. Kavazanjian, E., Jr., Matasovic, N. Hadj-Hamou, T., and Sabatini, P.J. (1997), "Design Guidance: Geotechnical Earthquake Engineering for Highways*," Geotechnical Engineering Circular No. 3*, DTFH61-94-C-00099, U.S. Department of Transportation, Washington, D.C.

7. Richardson, G.N., Kavazanjian, E., Jr. and Matasovic, N. (1995), "RCRA Subtitle D (258) Seismic Design Guidance for Municipal Solid Waste Landfill Facilities," EPA/600/R-95/051, United States Environmental Protection Agency, Cincinnati, Ohio, 143 p.

8. Kavazanjian, E. Jr., Chameau, J.L., Clough, G.W., and Hadj-Hamou, T.A. (1983), "Applications of Probabilistic Models to Geotechnical Practice," Proc. *Seminar on Probabilistic Methods in Geotechnical Engineering*, M.E. Hynes-Griffin and L.L. Buege, editors, U.S. Army Engineers Waterways Experiment Station, Vicksburg, Mississippi.

Refereed Conference Papers

Total Refereed Conference Papers published:	46
Refereed Conference Papers published from ASU:	38
Refereed Conference Papers published prior to ASU:	8

1. Raymond, A.J.*[+], Purdy, C. [+], Fox, T. [+], Kendall, A. [+], DeJong, J.T. [+], Kavazanjian E., Jr. [+], **Woolley, M.** [+], and **Martin, K.** [+] (2019) "Life Cycle Sustainability Assessment of Enzyme-Induced Carbonate Precipitation (EICP) for Fugitive Dust Control," Proceedings, 3rd International Conference on Bio-Based Building Materials, Belfast, UK, 26-28 June, 8 pages

2. Kavazanjian, E., Jr. [+*], **O'Donnell, S.T.** [+], Rittmann, B. [+], Hamdan, N. [+], **Hall, C.** [+], and van Paassen, L.A. [+] (2018) "Mitigation of Liquefaction Beneath Existing Facilities Using Microbial Denitrification," Proceedings, Eleventh US National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, June

3. **Hall, C.** [+], Hernandez, G. [+], Darby, K. [+], van Paassen, L[+]., Kavazanjian, E. , Jr. [+*], DeJong, J. [+], Wilson, D. [+] (2018) "Centrifuge Model Testing of Liquefaction Mitigation via Denitrification-Induced Desaturation," Proceedings, Geotechnical Earthquake Engineering and Soil Dynamics V, ASCE GSP 290, Austin, TX, 10 June 2018, pp. 117-126

4. **Almajed, A**.[+], Khodadadi Tirkolaei, H.[x+], and Kavazanjian, E., Jr.[+] (2018) "Sisal Fiber Reinforcement of EICP-Treated Soil," Proceedings of IFCEE 2018, ASCE Special Geotechnical Publication 296, pp. 29-36

5. Pasillas, J.N.[+], Khodadadi Tirkolaei, H.[x+], **Martin, K**.[+], Bandini, P.[+], Newtson, C.M.[+], and Kavazanjian, E., Jr.[+] (2018) "Viscosity-enhanced EICP Treatment of Soil," Proceedings of IFCEE 2018, ASCE Special Geotechnical Publication 296, pp.145-154

6. **Javadi, N.**[+], Khodadadi Tirkolaei, H.[x+], Hamdan, N.[+], and Kavazanjian, E., Jr.[+] (2018) "EICP Treatment of Soil by Using Urease Enzyme Extracted from Watermelon Seeds," Proceedings of IFCEE 2018, ASCE Special Geotechnical Publication 296, pp. 115-125

7. van Paassen, L.A. *[+], Pham, V.[+], Mahabadi, N. [x+], **Hall, C. ****[+], **Stallings, E**. ****[+], and Kavazanjian, E. (2017) [+] "Desaturation via Biogenic Gas Formation as a Ground Improvement Technique," Proceeding of PanAm-UNSAT 2017: Second Pan-American Conference on Unsaturated Soils, ASCE, Dallas, TX 12-15 November

8. Tambe, V. [+], Reddy, T.A. [+], and Kavazanjian, E., Jr. *[+] (2017) "The Economic Viability of Ground Coupled Heat Pump Systems in Hot and Semi-Arid Climates," Proceeding of PanAm-UNSAT 2017: Second Pan-American Conference on Unsaturated Soils, ASCE, Dallas, TX 12-15 November

9. Tambe, V [+]., Reddy, T.A. [+], and Kavazanjian, E., Jr. *[+] (2017) Evaluation of Ground Coupled Heat Pump Systems in a Hot and Semi-Arid Climate", Proceeding of PanAm-UNSAT 2017: Second Pan-American Conference on Unsaturated Soils, ASCE, Dallas, TX 12-15 November

10. **Dalal, M.*[+],** Larson, J.[+x], Zapata, C.[+], Savenye, W.,[+] Hamdan, N.*[+], and Kavazanjian, E., Jr.[+] (2017) "An Interdisciplinary Approach to Developing an Undergraduate Module on Biogeotechnical Engineering," Proceedings, Society for Information Technology & Teacher Education International Conference, Association for the Advancement of Computing in Education (AACE), pp. 2074-2079
11. Khodadadi, T.H. [x*+], Kavazanjian, E., Jr. [+], van Paassen, L. T. [+], and DeJong, J.T. [+] (2017) "Bio-grout Materials: A Review," Proceedings of Grouting 2017, ASCE, doi.10.1061/9780784480793.001

12. Kavazanjian, E., Jr. *+, **Almajed, A.**+, and Hamdan, N.+x (2017) "Bio-Inspired Soil Improvement using EICP Soil Columns and Soil Nails," Proceedings of Grouting 2017, ASCE, doi.10.1061/9780784480793.002
13. **O'Donnell, S.T**.*+, Hamdan, N +x., Rittmann, B.E.+, and Kavazanjian, E., Jr.+ (2016) "A Stoichiometric Model for Biogeotechnical Soil Improvement," Proc. Geo-Chicago, ASCE, DOI: 10.1061/9780784480120.002
14. Ramaiah, B.J.* +, Ramana, G.V. +, Kavazanjian, E., Jr. +, and Bansal, B.K. + (2016) "Dynamic Properties of Municipal Solid Waste from a Dump Site at Delhi, India," accepted for publication, Proc. Geo-Chicago (ASCE Geo-Institute Specialty Conference on Sustainability, Energy, and the Geoenvironment), Chicago, Illinois, 14-18 August
15. Kavazanjian, E., Jr. *+, **O'Donnell, S.T.** +, and Hamdan, N. +x (2015) "Biogeotechnical Mitigation of Earthquake-Induced Liquefaction by Denitrification: A Two-Stage Process," Proceedings of the 6th International Conference on Earthquake Geotechnical Engineering, Christchurch, New Zealand, on CD ROM, 1-4 November.
16. Khodadadi, T.H. *+x, Kavazanjian, E., Jr. +, and Bilsel, H. + (2017) "Mineralogy of Calcium Carbonate in MICP-treated Soil Using Soaking and Injection Treatment Methods," accepted for publication, Proceeding of GeoFrontiers 2017, ASCE, DOI: 10.1061/9780784480441.021
17. Kavazanjian, E., Jr. *+ and Hamdan, N +x (2015) "Enzyme Induced Carbonate Precipitation (EICP) Columns for Ground Improvement," Proc., International Foundation Congress and Equipment Exposition (IFCEE 2015), ASCE Geotechnical Special Publication, DOI: 10.1061/9780784479087.209
18. Kavazanjian, E., Jr. *+ and **O'Donnell, S.T.** + (2015) "Mitigation of Earthquake-Induced Liquefaction via Microbial Denitrification: A Two-Phase Process," Proc., International Foundation Congress and Equipment Exposition (IFCEE 2015), ASCE Geotechnical Special Publication, DOI: 10.1061/9780784479087.212.
19. Ramaiah, B.J. *+, Ramana, G.V. +, and Kavazanjian, E. Jr. + (2014) "Undrained Response of Municipal Solid Waste Collected from a Waste Site in Delhi, India," Proceedings of GeoShanghai 2014, ASCE Special Geotechnical Publication 241, pp. 130-139
20. Hamdan, N. *+, Kavazanjian, E., Jr. +, and **O'Donnell, S.** + (2013) "Carbonate Cementation via Plant Derived Urease," *Proceedings of the 18th International Conference of Soil Mechanics and Geotechnical Engineering*, V. 3, pp. 2489-2492, Presses des Ponts, Paris, France
21. Kavazanjian, E. Jr.*+ (2013) "Closure and Post-Closure Development of the McColl Superfund Site," Seventh International Conference on Case Histories in Geotechnical Engineering, University of Missouri, Rolla, MO (on CD ROM)
22. Kortegast A.P. *+, Shallard A. +, Eldridge S. +, Bryce, A. +, Kavazanjian, E., Jr. + (2011) "Landfill Cap Design for Runoff and Infiltration Control – An Innovative Solution," ISWA World Congress, Florence (on CD ROM)

23. **Arab, M.G.** [+], Kavazanjian, E., Jr. *[+], Fox, P.J. [+], and Ross, J.D. [+] (2011) "Displacement-Softening Constitutive Model for Geosynthetic Interfaces," *Proceedings of the 14th Pan American Conference on Soil Mechanics and Geotechnical Engineering*, Canadian Geotechnical Society, 7 pages (on CD ROM)

24. **Hamdan, N.** *[+], Kavazanjian, E., Jr. [+], and Rittmann, B.E. [+] (2011) "Sequestration of Radionuclide and Metal Contaminants through Microbially-Induced Carbonate Precipitation," *Proceedings of the 14th Pan American Conference on Soil Mechanics and Geotechnical Engineering*, Canadian Geotechnical Society, 5 pages (on CD ROM)

25. **Arab, M.G.** [+], Kavazanjian, E., Jr. *[+], and Matasovic, N. [+] (2011) "Seismic Analysis of a Geosynthetic Liner System," Proceedings of GeoFrontiers 2011: Advances in Geotechnical Engineering, American Society of Civil Engineers Geotechnical Special Publication 211, pp. 1981-1990, DOI: 10.1061/41165(397)202

26. **Hamdan, N.** *[+], Kavazanjian, E., Jr. [+], Rittmann, B.E. [+], and **Karatas, I**. [+] (2011) "Carbonate Mineral Precipitation for Soil Improvement through Microbial Denitrification," Proceedings of GeoFrontiers 2011: Advances in Geotechnical Engineering, American Society of Civil Engineers Geotechnical Special Publication 211, pp. 3925 – 3934, DOI: 10.1061/41165(397)401

27. **Ghanat, S.** [+] and Kavazanjian, E. Jr. *[+] (2011) "Site-Specific Response Analysis at Non-Standard Sites," *Proceedings of the 5th International Conference on Earthquake Geotechnical Engineering,"* Santiago, Chile, January, Paper No. SSRGH, on CD ROM, 12 pages

28. Kavazanjian, E. Jr. *[+], **Arab, M.G.** [+], and Matasovic, N. [+] (2011) "Seismic Analysis of Heap Leach Pad Liner Systems," *Proceedings of the 5th International Conference on Earthquake Geotechnical Engineering,"* Santiago, Chile, January, Paper No. SEIKA, on CD ROM, 12 pages

29. Oettle, N.*[+], Matasovic, N.[+], **Kavazanjian, E., Jr.**[+], and Conkle, C.[+] (2010) "Characterization and Placement of Municipal Solid Waste as Engineered Fill," *Proceedings of the 2010 Global Waste Management Symposium*, San Antonio, Texas, October, on CD ROM, 10 pages **(**www.wastesymposium.com**).**

30. **Ghanat, S.** [+] and Kavazanjian, E. Jr. *[+] (2010) "Site-Specific Response Analysis for Deep Soil Basins," *Proceedings of the 9th US National Conference and 10th Canadian Conference on Earthquake Engineering*, Toronto, Canada, Earthquake Engineering Research Institute, Oakland, California, on CD ROM, 10 pages

31. **Arab, M.G.** [+] and Kavazanjian, E., Jr. *[+] (2010) "Time-domain Analysis of Frictional Base Isolation Using Geosynthetics," *Proceedings of the 9th International Conference on Geosynthetics*, Guaruja, Brazil, May, IGS-Brazil, Vol. 2, pp. 695-698

32. Kavazanjian, E., Jr. *[+], Iglesias, E. [+], and Karatas, I. [+] (2009) "Biopolymer Soil Stabilization for Wind Erosion Control," *Proceedings of the 17th International Conference on Soil Mechanics and Geotechnical Engineering*, Alexandria, Egypt, IOS Press - Millpress, Vol. 2, pp. 881-884

33. **Karatas, I.** *[+], Kavazanjian, E. Jr. [+], and Rittmann, B. E. [+] (2008) "Microbially Induced Precipitation of Calcite Using Pseudomonas Denitrificans," *Proceedings of the First International Conference on Biogeotechnical Engineering*, Technical University of Delft, Delft, The Netherlands (on CD ROM)

34. Kavazanjian, E., Jr. *[+] (2008) "The Impact of Degradation on MSW Shear Strength," *Proceedings of GeoCongress '08: Geotechnics of Waste Management and Remediation*, American Society of Civil Engineers Geotechnical Special Publication 177, pp. 224-231

35. Zekkos, D. *[+], Bray, J. D. [+], Stokoe, K. [+], Kavazanjian, E., Jr. [+], Athanasopoulos G. A. [+], Riemer, M. [+], Lee, J. J. [+], Seo, B. [+z], Rathje, E. [+], and Matasovic, N. [+] (2008) "Recent Findings on the Static and Dynamic Properties of Municipal Solid-Waste," *Proceedings of GeoCongress '08: Geotechnics of Waste Management and Remediation*, American Society of Civil Engineers Geotechnical Special Publication 177, pp. 176-183

36. Zekkos, D. *[+], Bray, J.D. [+], Athanasopolous, G.A. [+], Riemer, M. [+], Kavazanjian, E., Jr., [+] Founta, P. [+] and Grizzi, A. [+] (2007) "Compositional and Loading Rate Effects on the Shear Strength of Municipal Solid Waste," *Proc. 4th International Conference on Earthquake Geotechnical Engineering*, Thessaloniki, Greece, June (on CD ROM)

37. Merry, S.M. *[+], and Kavazanjian, E., Jr. [+] (2006) "Influence of Landfill Gas on the Stability of Wet Landfills," *Proc. 11th Annual Landfill Symposium*, Solid Waste Association of North America, Silver Springs, Maryland Solid Waste Association of North America, Nashville, TN, June 5-7 (on CD ROM).

38. Kavazanjian, E. Jr. *[+], Gross, B.A. [+], and Hadj-Hamou, T. [+] (2006) "Unsaturated Flow Flux Assessment for Evapotranspirative Cover Compliance" *Unsaturated Soils 2006*, Proceedings of the Fourth International Conference on Unsaturated Soil Mechanics, ASCE, pp. 634-645

39. Rosenblad, B. L., Stokoe, K. H., Kalinski, M. E., Kavazanjian, E., Jr. (2003) "Shear Wave Velocity Profiles of Sediments Determined from Surface Wave Measurements," *Proc. ISOPE-2003: Thirteenth (2003) International Offshore and Polar Engineering Conference*; Honolulu, HI; USA; 25-30 May, pp. 593-599

40. Kavazanjian, E., Jr. (2000) "Geoenvironmental Performance Monitoring*" Proceedings of a Specialty Conference on Performance Confirmation of Constructed Geotechnical Facilities,* Geotechnical Special Publication No, 94, ASCE, pp. 21-40

41. Augello, A.J., Matasovic, N. Bray, J.D., Kavazanjian, E., Jr., and Seed, R.B. (1995), "Evaluation of Solid Waste Landfill Performance During the Northridge Earthquake," In: *Earthquake Design and Performance of Solid Waste Landfills,* ASCE Geotechnical Special Publication No. 54, pp. 17-50.

42. Kavazanjian, E. Jr., Bonaparte, R., Johnson, G.W., Martin, G.R. and Matasovic, N. (1995), "Hazard Analysis for a Large Regional Landfill," In: *Earthquake Design and Performance of Solid Waste Landfills,* ASCE Geotechnical Special Publication No. 54, pp. 119-141.

43. Kavazanjian, E., Jr., Matasovic, N. Bonaparte, R. and Schmertmann, G.R. (1995), "Evaluation of MSW Properties for Seismic Analysis," In: *Geoenvironment 2000,* ASCE Geotechnical Special Publication No. 46, Vol. 2, pp. 1126-1141.

44. Kavazanjian, E., Jr. and Matasovic, N. (1995), "Seismic Analysis of Solid Waste Landfills," In: *Geoenvironment 2000,* ASCE Geotechnical Special Publication No. 46, Vol. 2, pp. 1066-1080.

45. Jacob, A., Thevanayagam, S., and Kavazanjian, E. (1994), "Vacuum-Assisted Consolidation of A Hydraulic Landfill," Proc. *Settlement '94,* American Society of Civil Engineers, Geotechnical Special Publication No. 40, College Station, Texas, pp. 1249-1261.

46. Kavazanjian, E. Jr. and Poepsel, P. (1984), "Numerical Analysis of Two Embankment Foundations," in *Sedimentation/Consolidation Models: Prediction and Validation*, Yong R.N. and Townsend, F.C eds., ASCE Special Technical Publication, , pp.84-106

Non-Refereed Conference Proceedings

Total Non-Refereed Conference Papers published:	77
Non-Refereed Conference Papers published from ASU:	26
Non-Refereed Conference Papers published prior to ASU:	51

1. Kavazanjian, E., Jr. (2019) "An Irrefutable Case for Case Histories: Seismic Design of Municipal Solid Waste Landfills," Proceedings, GeoCongress 2019: 8th International Conference on Case Histories in Geotechnical Engineering, Philadelphia, 24-27 March, 15 pages
2. Larson, J.S.*[+], **Dalal, M.** [+], Savenye, W.C. [+], Zapata, C.E. [+], Hamdan, N. [+], and Kavazanjian, E., Jr. [+] (2017) "Implementation of an introductory module on biogeotechnics in a freshman

engineering course" Complete research paper, Proceedings, 124th ASEE Annual Conference and Exposition.

3. Andresen, J. [+], and Kavazanjian, E., Jr. *[+] (2017) "Experimental Evaluation of Strain Concentrations in HDPE Geomembranes due to Scratches," Proceedings of Sardinia 2017, 16th International Waste Management and Landfill Symposium, Santa Margherita de Pula, 2-6 October

4. Kavazanjian, E., Jr. *[+], and **Gutierrez, A**. [+] (2015) "Large Scale Centrifuge Test of a Geomembrane-Lined Landfill Subject to Waste Settlement and Seismic Loading," Proc. Sardinia '09 – 15th International Waste Management and Landfill Symposium, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM), 11 pages

5. Ramaiah, G.V. *[+], Ramana, E. [+], Kavazanjian, E. [+], and Bansal, B.K[+]. (2015) "Shear Strength and Stiffness of Municipal Solid Waste from Large-Scale Triaxial Testing," Proc. Sardinia '09 – 15th International Waste Management and Landfill Symposium, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM), 11 pages

6. Thiel, R. *[+], Kavazanjian, E., Jr. [+], and **Wu, X.** [+] (2014) "Design Considerations for Slip Interfaces on Steep-Wall Liner Systems," Proceedings, Tenth International Conference on Geosynthetics, International Geosynthetics Society (On CD ROM), 6 pages

7. Kavazanjian, E. Jr. [+], **Arab, M**. [+], and Matasovic, N. [+] (2013) "Performance of Two Geosynthetics-Lined Landfills in the Northridge Earthquake," Proceedings, Seventh International Conference on Case Histories in Geotechnical Engineering, Missouri University of Science and Technology, Rolla, MO (on CD ROM)

8. Kavazanjian, E. *[+], Jr., **Arab, M.G.** [+], and Matasovic, N. [+] (2012) "Performance Based Design for Seismic Design of Geosynthetics-Lined Waste Containment Systems," Proceedings of Second International Conference on Performance-Based Earthquake Geotechnical Engineering, Taormina, Sicily, State of the Art – State of the Practice Volume, Keynote Lecture No. 19, May, University of Catania, 23 pages (on CD ROM)

9. **Arab, M.G.** [+], Kavazanjian, E., Jr.* [+], Fox, P.J. [+], and Matasovic, N. [+] (2012) "In Plane-Behavior of Geosynthetic Barrier Layers Subject to Cyclic Loading," Proceedings, *Second International Conference on Performance Based Design in Earthquake Geotechnical Engineering*, Taormina, Sicily, paper no. 3.11, May, University of Catania, 12 pages. (on CD ROM)

10. Kavazanjian, E., Jr. *[+] (2010) "Sustainable Landfilling," Proceedings, *6th International Conference on Environmental Geotechnics,* New Delhi, India, Tata McGraw Hill Education Private Limited, pp. 113-124

11. Kavazanjian, E. Jr. *+ (2010) "The Influence of Compositional Factors on the Mechanical Properties of Municipal Solid Waste," *Proceedings of the First US-India Workshop on Global Geoenvironmental Challenges,* Indian Geotechnical Society, November, pp. 35-41

12. **Kahhat, R.F.*+** and Kavazanjian, E., Jr.+ (2010) "Preliminary Feasibility Study on the Use of Mono-disposal Landfills for E-waste as Temporary Storage for Future Mining," Proceedings of the 2010 IEEE International Symposium on Sustainable Systems and Technology, ISSST 2010, 5 pages

13. **Arab, M.G.** *+, Kavazanjian, E., Jr. +, and Matasovic, N. + (2010) "Non-Linear Time Domain Analysis of a Sliding Block on a Plane," *Proceedings of the 5th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics,* San Diego, May, Missouri University of Science and Technology Press, on CD ROM, Paper No. 4.08b, 12 pages.

14. Kavazanjian, E. Jr. *+ (2009) "Recent Advances in Geotechnical Earthquake Engineering for Transportation Facilities," Proceedings, *International Conference on Earthquake Engineering on the First Anniversary of the Wenchuan Earthquake,* Southwest Jiaotong University, Chengdu, People Republic of China (on CD ROM)

15. Kavazanjian, E., Jr. *+ (2008) "The Indispensable Role of Case Histories in Landfill Engineering," State of the Art Paper Number 7, *Proc. 6th International Conference on Case Histories in Geotechnical Engineering*, Missouri University of Science and Technology, Rolla, MO (on CD ROM)

16. Kavazanjian, E., Jr. *+ and **Karatas, I.** + (2008) "Microbiological Improvement of the Physical Properties of Soil," Symposium to Honor James K. Mitchell, *Proc. 6th International Conference on Case Histories in Geotechnical Engineering*, Missouri University of Science and Technology, Rolla, MO (on CD ROM)

17. Williams, E. *+, **Kahhat, R.** +, Allenby, B. +, Kavazanjian, E,, Jr. + Kim, J. +, and Xu, M. + "Sustainability review of the international reverse chain for reuse and recycling of computers", Proceedings of the 2008 IEEE International Symposium on Electronics and the Environment, San Francisco, CA (2008)

18. Kavazanjian, E. Jr. *+, (2007) "Sustainable Redevelopment of Former and Abandoned Landfills: Lessons from Practice," *Proc. Sardinia '07 – 11th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

19. Zekkos, D. *[+], Bray, J.D. [+], Riemer, M. [+], Kavazanjian, E., Jr. [+] and Athanasopolous, G.A. [+] (2007) "Response of Municipal Solid-Waste from Tri-Cities Landfill in Triaxial Compression," *Proc. Sardinia '07 – 11th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

20. Finno, R. *[+], Jung, Y-H. [+], Kavazanjian, E., Jr[+]. and Seo, B. [+] (2007) "Interpretation of MSW Shear Strength from Simple Shear Tests," *Proc. Sardinia '07 – 11th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

21. Kavazanjian, E. Jr. *[+] (2007) "Natural Hazards Large and Small: Evaluation and Mitigation," Proceedings of the Metropolitan (New York/New Jersey) Section ASCE Geotechnical Group Specialty Seminar on Engineering of Geo Hazards, New York, NY, 16-17 May (on CD ROM) 20 pages

22. Narejo, D., Kavazanjian, E., and Erickson, R. (2007) "Maximum Protrusion Size under Geomembrane/GCL Composite Liners," Proceedings of Geosynthetics 2007, San Diego, CA, IFAI, 16 January

23. Kavazanjian, E. Jr. *[+], Dixon, N. [+], Katsumi, T. [+], Kortegast, A. [+], Legg, P. [+], and Zanzinger, H. [+] (2006) "Geosynthetic Barriers for Environmental Protection at Landfills," *Proc. 8th International Conference on Geosynthetics,* J. Kuwano and J. Koseki, editors, Yokohama, Japan, 18-22 September 2006, Millpress Science Publishers, pp. 121-152

24. Kavazanjian, E. Jr. *[+] (2006) "Waste Mechanics: Recent Findings and Unanswered Questions," *Advances in Unsaturated Soil, Seepage, and Environmental Geotechnics*, ASCE Geotechnical Special Publication 148, pp. 34-54

25. Kavazanjian, E., Jr. *[+] and Merry, S.M. [+] (2005) "The July 10, 2000 Payatas Landfill Failure," *Proc. Sardinia '05 – 10th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

26. Zekkos, D.P. *[+], Bray, J.D. [+], Kavazanjian, E. Jr. [+], Riemer, M., [+] Matasovic, N. [+], Stokoe, K.H., III[+], Rathje, E. [+], Seo, B. [+z], and Lee, J.J. [+] (2005) "Framework for Estimation of MSW Unit Weight Profile," *Proc. Sardinia '05 – 10th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

27. Avsar, S., Bouazza, A. & Kavazanjian, E., Jr. (2004) "Determination of Optimum Sampling Locations in a Solid Waste Landfill Using PCSV Technique," *Proc. 2nd International Conf. on Site Characterization*, Porto, Portugal, A. Viana Da Fonseca & P.W. Mayne (eds), Vol.2, pp.1263-1266, Millpress, Rotterdam.

28. Matasovic, N., De, A., Dunn, J., and Kavazanjian, E., Jr. (2004) "Slope Stability at a Hazardous Waste Site – Evaluation of the CPT Cone Factor N_k Using Dynamic Property Correlations," *Proc. 11th International Conference on Soil Dynamics and Earthquake Engineering and 3rd International Conference on Earthquake Geotechnical Engineering*, Berkeley, California, Vol. 1, pp. 478-484

29. Kavazanjian, E. Jr. (2003) "Field Measurement of MSW Properties," Proceedings, *GRI-17: Hot Topics in Geosynthetics, IV,* Koerner, R.M., Hsuan, Y., Koerner, G.R., and Ashley, M.V. editors., Geosynthetics Institute, Folsom, Pennsylvania, December 2003, pp. 74-113

30. Hadj-Hamou, T. and Kavazanjian, E., Jr. (2003) "Monitoring and Evaluation of Evapotranspirative Cover Performance," *Proc. Sardinia '03 – 9th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

31. Kavazanjian, E., Jr. and Dobrowolski, J.G. (2003) "Cost and Performance Evaluation of Alternative Final Covers," *Proc. Sardinia '03 – 9th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

32. Dobrowolski, J.G. and Kavazanjian, E., Jr. (2003) "Performance Demonstration for Alternative Liner Systems at Municipal Solid Waste Landfills," *Proc. Sardinia '03 – 9th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

33. Bouazza, A., Kavazanjian, E., Jr., Avsar, S., and Kodikara, J. (2003) "Application of Geostatistical Model to Map Spatial Distribution of Shear Wave Velocities of Solid Wastes ," *Proc. Sardinia '03 – 9th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy (on CD ROM)

34. Avsar M.S., Bouazza A., Kavazanjian E. Jr. and Öztürk C.A. (2003) "Interpolation of Solid Waste Shear Wave Velocity Using Geostatistics," Proceedings XIIIth European Conference on Soil Mechanics and Geotechnical Engineering, Prague, Vol.1, pp.21-26.

35. Giroud, J.P., Thiel, R.S., Kavazanjian, E., Jr., and Lauro, F. J. (2002) "Hydrated Area of a Bentonite Layer Encapsulated Between Two Geomembranes", *Proc. Seventh International Conference on Geosynthetics*, Nice, France, September (on CD ROM)

36. Kavazanjian, E. Jr. and Corcoran, G.T. (2002) "Combined Leachate Collection / Operations Layer for Landfill Sideslopes," *Proceeding, Wastecon 2002,* Solid Waste Association of North America, Long Beach, California, October (In Press)

37. Walters, D., Goldfield, T., Luccioni, L., Hadj-Hamou, T., and Kavazanjian, E. Jr. (2002) "Design, Performance, Monitoring, and Evaluation of an Evapotranspirative Cover at a Municipal Solid Waste Landfill", *Proceedings, 7th Annual Landfill Symposium,* Solid Waste Association of North America, Lexington, Kentucky, June

38. Arteaga, K.E. and Kavazanjian, E. Jr. (2002) "Household Hazardous Waste Content in MSW", *Proceedings, 7th Annual Landfill Symposium*, Solid Waste Association of North America, Lexington, Kentucky, June

39. Bouazza, A., and Kavazanjian, E., Jr. (2001) "Construction on Old Landfills," Proceedings, 2nd ANZ Conference on Environmental Geotechnics, Newcastle, NSW, Australia, Nov. (on CD ROM)

40. Menq, F-Y, Stokoe, K.H., II, and Kavazanjian, E., Jr. (2001) "Dynamic Properties of Municipal Waste from Large-Scale Resonant Testing," Proc. *Sardinia '01 – 8th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy, Vol. 111, pp. 435-444.

41. Kavazanjian, E., Jr. (2001) "Mechanical Properties of Municipal Solid Waste," Proc. *Sardinia '01 – 8th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy Vol. III, pp. 415-424

42. Kavazanjian, E. Jr., Hendron, D. and Corcoran, G.T. (2001) "Strength and Stability of Bioreactor Landfills," *Proceedings, 6th Annual Landfill Symposium*, Solid Waste Association of North America, Silver Springs, Maryland, pp. 63-72

43. Kavazanjian, E., Jr. and Matasovic, N. (2001) "Seismic Design of Mixed and Hazardous Waste Landfills," Proc. *4th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, University of Missouri-Rolla, Rolla, Missouri, (on CD ROM).

44. Kavazanjian, E., Jr. (2001) "Design and Performance of Evapotranspirative Cover Systems for Arid Region Landfills," 36th Annual Western States Engineering Geology and Geotechnical Engineering Symposium, University of Nevada, Las Vegas, Nevada, 28-30 March, pp. 11-26

45. Bouazza, A. and Kavazanjian, E., Jr. (2000), "Characterization of Municipal Solid Waste Sites Using the Continuous Surface Wave Method," *Proc. GeoEng2000* (on CD ROM), Melbourne, Australia, 19-24 November.

46. Evans, T.M., Meyers, D.K., Gharios, K.M., Hadj-Hamou, T., and Kavazanjian, E., Jr. (2000) "The Use of a Capillary Barrier Final Cover for Reclamation of a Closed Municipal Solid Waste Landfill," *Proc. 3rd Annual Arid Climate Symposium*, Solid Waste Association of North America, New Mexico Chapter, Albuquerque, New Mexico, 12-14 April.

47. Kavazanjian, E., Jr., Matasovic, N. and Bachus, R.C. (1999), "Large-Diameter Static and Cyclic Laboratory Testing of Municipal Solid Waste," *Proc. Sardinia '99 – 7th International Waste Management and Landfill Symposium*, Environmental Sanitary Engineering Centre (CISA), University of Padua, Italy, Vol. III, pp. 437-444.

48. Kavazanjian, E. Jr. (1999) "Seismic Design of Solid Waste Containment Facilities," *Proc. Eighth Canadian Conference on Earthquake Engineering,* Vancouver, British Columbia, 13-16 June, pp. 51-68.

49. Kavazanjian, E., Jr. (1999) "Seismic Design of Bridge Foundations," Proc. *Mid-America Highway Seismic Conference,"* St. Louis, Missouri, 28 February - 3 March.

50. Kavazanjian, E., Jr., Matasovic, N. and Caldwell, J. (1998), "Damage Criteria for Solid Waste Landfills," Proc. *Sixth U.S. National Conference on Earthquake Engineering* (on CD ROM), Seattle, Washington, 31 May – 4 June.

51. Snow, M.S., Mansour, R., Swan, R.H., Jr., and Kavazanjian, E., Jr. (1998), "Variability of Interface Shear Strengths," Proc. *Sixth International Conference on Geosynthetics,* Atlanta, Georgia, Vol. I, pp. 439-442.

52. Hendricker, A.T., Fredianelli, K.H., Kavazanjian, E., Jr., and McKelvey, J.A., III (1998), "Reinforcement Requirements at a Hazardous Waste Site," Proc. *Sixth International Conference on Geosynthetics,* Atlanta, Georgia, Vol. I, pp. 465-468.

53. Zornberg, J.G. and Kavazanjian, E., Jr. (1998), "Evaluation of a Geogrid Reinforced Slope Subjected to Differential Settlements," Proc. *Sixth International Conference on Geosynthetics,* Atlanta, Georgia, Vol. I, pp. 465-468.

54. Kavazanjian, E., Jr. (1998), "Current Issues in Seismic Design of Geosynthetic Cover Systems," Proc. *Sixth International Conference on Geosynthetics*, Atlanta, Georgia, Vol. I, pp. 219-226.

55. Matasovic, N., Kavazanjian, E. Jr. and Yan, L. (1997), "Newmark Deformation Analysis with Degrading Yield Acceleration," Proc. *Geosynthetic '97*, Long Beach, California, Vol. 2, pp. 989-1000.

56. Kavazanjian, E., Jr., Matasovic, N., Stokoe, K.H., II, and Bray, J.D. (1996), "In-Situ Shear Wave Velocity of Solid Waste from Surface Wave Measurements," Proc. *2nd International Congress Environmental Geotechnics*, Osaka, Japan, Balkema, Vol. 1, pp. 97-104.

57. Yan, L., Matasovic, N. and Kavazanjian, E., Jr. (1996), "Seismic Response of Rigid Block on Inclined Plane to Vertical and Horizontal Ground Motions Acting Simultaneously," Proc. *11th ASCE Engineering Mechanics Conference*, Fort Lauderdale, Florida, Vol. 2, pp. 1110-1113.

58. Matasovic, N. and Kavazanjian, E., Jr. (1996), "Observations of the Performance of Solid Waste Landfills During Earthquakes," Proc. *11th World Conference on Earthquake Engineering*, Acapulco, Mexico, Elsevier Science Ltd. Paper No. 341, 8 p. (on CD ROM)

59. Matasovic, N., Kavazanjian, E., Jr. and Abourjeily, F. (1995), "Dynamic Properties of Solid Waste from Field Observations," Proc. *1st International Conference on Earthquake Geotechnical Engineering*, Tokyo, Japan, Vol. 1, pp. 549-554.

60. Castelli, R.J., Rice, P.M., and Kavazanjian, E., Jr. (1995), "Rehabilitation of Trout Run Dam," Proc. *Annual Meeting of the Association of State Dam Safety Officials*, Atlanta, Georgia, 17 September, pp. 603-612.

61. Augello, A.J., Bray, J.D., Kavazanjian, E., Jr., Matasovic, N., Herzig, R., and Seed, R.B. (1995), "Performance of the Solid Waste Landfills in the 1994 Northridge Earthquake," Proc. *3rd International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, University of Missouri-Rolla, Rolla, Missouri, Vol. III, pp. 1395-1401.

62. Anderson, D.G., and Kavazanjian, E., Jr. (1995), "Performance of Landfills Under Seismic Loading," Proc. *3rd International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, University of Missouri-Rolla, Rolla, Missouri, Vol. III, pp. 1-30.

63. Snow, M.S., Kavazanjian, E., Jr., and Sanglerat, T.R. (1994), "Geosynthetic Composite Liner System for Steep Landfill Side Slopes," Proc. *5th International Conference on Geotextiles, Geomembranes, and Related Products*, Singapore, pp. 969-972.

64. Snow, M.S., Bonaparte, R., and Kavazanjian, E. Jr. (1994), "Geosynthetic Composite Liner System for Subtitle D," Proc. *Waste Tech '94 Landfill Technology Conference*, National Solid Waste Management Association, Charleston, South Carolina.

65. Kavazanjian, E., Jr. (1994), "SASW Testing at Solid Waste Landfill Facilities," Proc. *National Science Foundation Workshop on Seismic Design of Solid Waste Landfills*, Department of Civil Engineering, University of Southern California.

66. Thevanayagam, S., Kavazanjian, E., Jacob, A, and Juran, I. (1994) "Prospects for Vacuum-Assisted Consolidation for Ground Improvement of Coastal and Offshore Fills," American Society of Civil Engineers, Geotechnical Special Publication No. 45, pp. 90-105

67. Kavazanjian, E., Jr., Snow, M.S., Matasovic, N., Poran, C. and Satoh, T. (1994), "Non-Intrusive Rayleigh Wave Investigations at Solid Waste Landfills," Proc. *1st International Congress on Environmental Geotechnics*, Edmonton, Alberta, pp. 707-712.

68. Kavazanjian, E., Jr., Hushmand, B., and Martin, G.R. (1991), "Frictional Base Isolation Using a Layered Soil-Synthetic Liner System," Proc. *3rd U.S. Conference on Lifeline Earthquake Engineering*, ASCE Technical Council on Lifeline Earthquake Engineering Monograph No. 4, pp. 1139-1151.

69. Kavazanjian, E., Jr., and Wang, J-N (1988), "Frequency Domain Site Response Analysis with Pore Pressure Softening," Proc. *9th World Conference on Earthquake Engineering*, Tokyo.

70. Wang, J-N, and Kavazanjian, E., Jr. (1988), "Non-Stationary Seismic Site Response with Pore Pressure," *Proc. Joint ST/EMD/GT Conference on Probabilistic Methods*, ASCE, Blacksburg, Virginia.

71. Ho, C.L., and Kavazanjian, E., Jr. (1986), "Probabilistic Study of SPT Liquefaction Analysis," Proc. *In Situ '86*, ASCE Specialty Conference on Use of In-Situ Tests in Geotechnical Engineering, Blacksburg, Virginia, ASCE Geotechnical Special Publication No. 6.

72. Kavazanjian, E., Jr., Borja, R.I., and Jong, H-L (1985), "Numerical Analysis of Time-Dependent Deformations in Clay Soils," Proc. *11th International Conference on Soil Mechanics and Foundation Engineering*, Vol. 2, San Francisco, California.

73. Hadj-Hamou, T. and Kavazanjian, E., Jr. (1984), "Probabilistic Seismic Stability of a Cohesionless Slope of Limited Extent," Proc. *8th World Conference on Earthquake Engineering*, Vol. III, San Francisco, California.

74. Kavazanjian, E. Jr. and Ho, C.L. (1984), "Non-Linear Probabilistic Evaluation of the Number of Equivalent Uniform Cycles for Liquefaction Analyses," Proc. *8th World Conference on Earthquake Engineering*, Vol. III, San Francisco, California.

75. Kavazanjian, E. Jr. and Hadj-Hamou, T. (1981), "Determination of the Dynamic Material Properties of Soils from the Results of Static Shear Tests," Proc. *International Conference on Recent Advances in Geotechnical Engineering and Soil Dynamics*, St. Louis, Missouri.

76. Kavazanjian, E. Jr. and Chameau, J.L. (1981), "Effective Stress Analysis of Seismically Induced Stability Problems," Proc. *International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, St. Louis, Missouri.

77. Kavazanjian, E. Jr. and Mitchell, J.K. (1977), "A General Stress-Strain-Time Formulation for Soils," Proc. *Specialty Session No. 9 on Constitutive Equations of Soils*, 9th International Conference on Soil Mechanics and Foundation Engineering, Tokyo, pp 113-120.

Miscellaneous Publications

Total Miscellaneous Publications:	11
Miscellaneous Publications published from ASU:	6
Miscellaneous Publications published prior to ASU:	5

1. DeJong, J.T. [+], and Kavazanjian, E., Jr. (2017) [+] "Sustainable Biogeotechnics," submitted for publication, NSF Workshop on Geotechnical Fundamentals in the Face of New World Challenges, 17-19 July 2016
2. Kavazanjian, E., Jr. *[+] and DeJong, J.T. [+] (2016) "Biogeotechnical Mitigation of Earthquake-Induced Soil Liquefaction," Geo-Strata Magazine, ASVE, V. 20, No.6 , 6 p.
3. Thiel, R. *[+], Kavazanjian, E., Jr. [+], and **Wu, X.** [+] (2015) "Design Considerations for Slip Interfaces on Steep-wall Liner Systems," *Geosynthetics* Magazine, IFAI, February/March, 5 pages
4. DeJong, J.T. [+], Mortensen, B. [+], Soga, K. [+], Banwart, S.A. [+], Whalley, W.R. [+], Martinez, B. [+], and Kavazanjian, E., Jr. [+] (2011) "Harnessing Bio-Geotechnical Systems for Sustainable Ground Modification," *Geo-Strata* Magazine, ASCE, V. 15, No. 4, pp. 36-39,51

5. Mitchell, J. K. [+] and Kavazanjian, E., Jr. *[+] (2007) "Geoengineering for the 21st Century," *Geo-Strata* Magazine, ASCE, V. 8, No. 4, pp. 14-18

6. Kavazanjian, E. Jr. *[+] (2006) "Commentary: The Role of the Geo-engineer in Natural Hazard Mitigation," *Geo-Strata* Magazine, ASCE, V. 8, No. 6, p. 10

7. Yegian. M.K. and Kavazanjian, E., Jr. (editors) (2004), "Proc. *Geo-Trans 2004: Geotechnical Engineering for Transportation Projects,"* ASCE Geotechnical Special Publication No. 126 (2 Volumes), 27-31 July

8. Kavazanjian, E., Jr. (editor) (1999), "Proc. *TRB Workshop on New Approaches to Liquefaction Analysis*," Federal Highway Administration Publication No. FHWA-RD-99-165, January, (CD ROM)

9. Matasovic, N., Kavazanjian, E., Jr., and Giroud, J.P. (1997) "Newmark Seismic Deformation Analysis for Composite Landfill Covers," *Geotechnical News,* September, pp. 22-25

10. Derian, L., Gharios, K.M., Kavazanjian, E., Jr., and Snow, M.S. (1993), "Geosynthetics Conquer the Landfill Law," *Civil Engineering,* ASCE, Vol. 63, No. 12.

11. Martin, G.R. and Kavazanjian, E., Jr. (editors) (1994), Proceedings of the August 1993 *National Science Foundation Workshop on Seismic Design of Solid Waste Landfills*, Department of Civil Engineering, University of Southern California

Invited Keynote and State-of-the-Art / State-of-Practice Presentations

2018 *Biogeotechnical Applications for Geoenvironmental Engineering*, Keynote address, 8th International Congress on Environmental Geotechnics, Hangzhou, China, 30 October

2018 *Biogeotechnics for Environmental Protection*, International workshop on Bio-mediated and Bio-Inspired Geotechnics, Georgia Institute of Technology, 13 September

2017 *Desaturation via Biogenic Gas Formation as a Ground Improvement Technique*, Second Pan American Conference on Unsaturated Soil Mechanics, Dallas, Texas, 15 November.

2017 *Biogeotechnical Precipitation of Calcium Carbonate for Mitigation of Liquefaction Potential and Other Ground Improvement Applications*, 2017 International

Conference on Transportation Infrastructure and Materials, Qingdao University of Technology, Peoples Republic of China, 9 June

2016 *Recent Developments in the Assessment of Earthquake-Induced Soil Liquefaction,* 2016 Southwest Geo-Hazards Symposium, Arizona Section of the ASCE Geo-Institute, Phoenix, AZ, 14 November

2016 *Geo-Alchemy: Biogeotechnical Carbonate Precipitation for Hazard Mitigation and Ground Improvement*, 24th Spencer Buchanan Lecture, Texas A&M University, College Station, TX, 14 October

2017 *Biogeotechnics: Progress, Opportunities, and Challenges* (with Jason DeJong), NSF Workshop on Geotechnical Fundamentals in the Face of New World Challenges, Arlington, VA, 18 July

2016 *Geo-Alchemy: Turning Sand into Sandstone (and other biogeotechnologies)*, James M. Hoover Distinguished Lecture, Iowa State University, Ames, IA, 28 April

2016 *Geo-Alchemy: Turning Sand into Sandstone (and other biogeotechnologies)*, Annual Meeting of the California Geotechnical Engineering Association, Pasadena, CA, 14 April

2016 *Geo-Alchemy: Turning Sand into Sandstone (and other biogeotechnologies)*, Annual Meeting of the Center for Geotechnical Practice and Research, Virginia Technical Institute and State University, Blacksburg, VA, 24 March

2015 *Biogeotechnical Solutions for Deep Foundations,* 41st Annual Meeting of the Deep Foundations Institute, Oakland, CA, 14 October

2014 *Applications of Biogeotechnics to Geoenvironmental Engineering,* Seventh International Conference on Environmental Geotechnics, Melbourne, Australia, 11-14 November

2014 *Design of Geomembranes for Tailings Impoundments,* International Conference on Geosynthetics Mining Solutions, Vancouver, Canada, 8-11 September,

2013 *Performance of Two Geosynthetics-Lined Landfills in the Northridge Earthquake*, Seventh International Conference on Case Histories in Geotechnical Engineering, Chicago, Illinois, 29 April – 4 May

2013 *Geomicrobiological and Bio-Inspired Ground Improvement Techniques for Seismic Hazard Mitigation,* Keynote Address, 2nd International Association of Chinese Geotechnical Engineers International Conference on Geotechnical and Earthquake Engineering, Chengdu, China, 25-27 May

2012 *Performance Based Seismic Design of Geosynthetic Barriers for waste Containment,* State-of-the-Art address, 2nd International Conference on Performance Based Earthquake Geotechnical Engineering, Taormina, Sicily, 30 May

2010 *Sustainable Landfilling,* Keynote Address, 6th International Conference on Environmental Geotechnics, New Delhi, India, 9 November

2010 *Pre-Design Geotechnical Studies for the OII Landfill Superfund Site,* 49th Ardaman Lecture, University of Florida, Gainesville, 22 April

2010 *Pre-Design Static and Seismic Analysis of the OII Superfund Site,* Department of Civil Engineering Distinguished Lecture Series, University of Texas at Austin, 15 April

2009 *Recent Advances in Geotechnical Earthquake Engineering for Transportation Facilities*, International Conference on Earthquake Engineering on the First Anniversary of the Wenchuan Earthquake, Southwest Jiaotong University, Chengdu, China, May

2008 *Sustainable Landfilling,* Keynote address, First International Congress on Technologies for the Environment, Bento Goncalves, Rio Grande du Sol, Brazil, October

2008 *The Indispensable Role of Case Histories in Landfill Engineering,* State of the Art/Practice paper, 6th International Conference on Case Histories in Geotechnical Engineering, Washington, D.C., August

2007 *Natural Hazards Large and Small: Evaluation and Mitigation,* Keynote Lecture, Metropolitan New York / New Jersey Section ASCE Geotechnical Group Specialty Seminar on Engineering of Geo Hazards, New York, NY, May

2006 *Geosynthetic Barriers for Environmental Protection,* Keynote Address, 9th International Conference on Geosynthetics, Yokohama, September

2006 *Waste Mechanics: Recent Findings and Unanswered Questions*, Keynote Address, GeoShanghi International Conference on Geotechnical Engineering, Shanghai, June

2005 *Waste Mechanics: Waste Properties and Seismic Analysis*, Keynote Lectures, WasteCon 2005, Sun City, South Africa, October

2003 *Field Measurement of MSW Properties*, Keynote Lecture, Annual Meeting of the Geosynthetics Research Institute, Las Vegas, December

2001 *Construction on Old Landfills*, w/ Abdelmalek Bouazza, State of the Art Paper, 2nd Australian/New Zealand Conference on Environmental Geotechnics, Newcastle, November

2001 *Seismic Design of Mixed and Hazardous Waste Landfills*, w/ Neven Matasovic, State of the Practice Paper, Fourth International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, San Diego, March

2001 *Design and Construction of Evapotranspirative Cover Systems for Arid Region Landfills*, Keynote Address, 36th Annual Western States Geotechnical Symposium, University of Nevada, Las Vegas, March

2000 *Geoenvironmental Performance Monitoring*, Keynote Address, Performance Confirmation of Constructed Geotechnical Facilities, University of Massachusetts, Amherst, April

1999 *Seismic Design of Waste Containment Systems*, Keynote Address, 8th Canadian Conference on Earthquake Engineering, Vancouver, June, 1999

1996 Geotechnics of Waste Landfills, General Report, 2nd International Congress Environmental Geotechnics, Osaka, Japan, November

1995 *Performance of Landfills Under Seismic Loading*, State of the Art Paper, 3rd International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, St. Louis, April

1988 *Time-Dependent Models for Soil Behavior*, Keynote Address, 2nd International Conference on Rheology and Soil Mechanics, Coventry University, England, September

Other Invited Presentations

2 February 2018	*Enzyme Induced Carbonate Precipitation and Other Biogeotechnologies for Sand Stabilization*, University of Illinois, Chicago, Distinguished Lecture, Chicago, IL
10 May 2018	*Geo-Alchemy: Turning Sand into Sandstone, and Other Biogeotechnologies*, Edwards Distinguished Lecture, Oregon State University, Corvallis, OR
9 February 2018	*Biogeotechnical Stabilization of Sand and Other Biogeotechnologies,* TH Wu Lecture, Ohio State University, Columbus, OH
11 May 2017	*Geo-Alchemy: Carbonate Precipitation for Hazard Mitigation and Ground Improvement*, presentation to the Department of Mechanical and Chemical Engineering, California Institute of Technology, Pasadena, CA
13 March 2017	*State of the Art and Practice in Assessment of Earthquake-Induced Soil Liquefaction and Its Consequences*, briefing to the ASCE Geo-Institute at GeoFrontiers 2017, Orlando, FL
8 March 2017	*State of the Art and Practice in Assessment of Earthquake-Induced Soil Liquefaction and Its Consequences*, briefing at the Annual Meeting of the Earthquake Engineering Research Institute, Portland, OR
13 February 2017	*State of the Art and Practice in Assessment of Earthquake-Induced Soil Liquefaction and Its Consequence*s, briefing to the National Research Council Committee on Geological and Geotechnical Engineering, Santa Ana, CA
27 January 2017	*Carbonate Precipitation for Ground Improvement, and Other Biogeotechnologies*, S&ME 16th Annual Technical Conference, Concord, NC
8 January 2017	*Opportunities and Challenges for Improvement of Granular Soils by Carbonate Precipitation*, Workshop on Bio-mediated and Bio-

inspired Soil Modification and Its Applications, 96th Annual Meeting of the Transportation Research Board, Washington, DC

18 July 2016 — *Biogeotechnics: Progress, Opportunities, and Challenges* (with Jason DeJong), NSF Workshop on Geotechnical Fundamentals in the Face of New World Challenges, Arlington, VA,

10 February 2016 — *Current Research at the Center for Bio-mediated and Bio-inspired Geotechnics,* Professional Development Webinar Series, Geosyntec Consultants, Atlanta, GA

3 March 2015 — *Bio-inspired Geotechnics at Arizona State University,* Launch Symposium for the ASU Bio-mimicry Center, Tempe, AZ

12 February 2015 — *Geo-Alchemy: Turning Sand into Sandstone and other Microbiological and Bio-Inspired Ground Improvement Technologies,* Nebraska Section ASCE, Omaha, Nebraska

29 May 2014 — *Biogeotechnical Engineering Research at Arizona State University,* Lanzhou University, Lanzhou, China

30 October 2013 — *Performance Based Seismic Design of Geosynthetic Barriers for Waste Containment,* Zhejiang University, Hangzhou, China

30 October 2013 — *Geo-Alchemy: Turning Sand into Sandstone and Other Biogeotechnical Ground Improvement Techniques,* Zhejiang University, Hangzhou, China

22 October 2013 — *The Seismic Coefficient for Slope and Retaining Wall Design,* Prince George Section, Canadian Geotechnical Society, Prince George, Canada

21 October 2013 — *The Seismic Coefficient for Slope and Retaining Wall Design,* Vancouver Section, Canadian Geotechnical Society, Vancouver, Canada

21 October 2013 — *Pre-Design Geotechnical Investigation for the OII Landfill Superfund Site Landfill,* Edmonton Section, Canadian Geotechnical Society, University of Edmonton, Canada

18 October 2013	*Geo-Alchemy: Turning Sand into Sandstone and Other Biogeotechnical Ground Improvement Techniques,* Calgary Section, Canadian Geotechnical Society, Calgary, Canada
17 October 2013	*Pre-Design Geotechnical Investigation for the OII Landfill Superfund Site Landfill,* Saskatoon Section, Canadian Geotechnical Society, University of Saskatchewan, Saskatoon, Canada
15 October 2013	*The Seismic Coefficient for Slope and Retaining Wall Design,* Toronto Section, Canadian Geotechnical Society, Toronto, Canada
11 October 2013	*Pre-Design Geotechnical Investigation for the OII Landfill Superfund Site Landfill,* Kingston Section, Canadian Geotechnical Society, Kingston, Canada
10 October 2013	*The Seismic Coefficient for Slope and Retaining Wall Design,* Montreal Section, Canadian Geotechnical Society, Laval University, Montreal, Canada
16 October 2013	*Pre-Design Geotechnical Investigation for the OII Landfill Superfund Site Landfill,* Winnipeg Section, Canadian Geotechnical Society, Winnipeg, Canada
9 October 2013	*The Seismic Coefficient for Slope and Retaining Wall Design,* Quebec Section, Canadian Geotechnical Society, Laval University, Quebec City, Canada
8 October 2013	*Geo-Alchemy: Turning Sand into Sandstone and Other Biogeotechnical Ground Improvement Techniques,* Ottawa Section, Canadian Geotechnical Society, Ottawa, Canada
17 September 2013	*Research in Bio and Bio-Inspired Geotechnical Engineering at Arizona State University,* Technical University Delft, Delft, NV
22 January 2013	*Earthquakes and Earthquake Engineering,* Connolly Middle School 7th Grade Science Class, Tempe, AZ
22 August 2012	*Performance-Based Design of Geosynthetic Liner Systems,* CETCO, Inc. Seminar of Seminar on Recent Development in Geosynthetic Liner System Design, Costa Mesa, California

21 July 2012	*Performance-Based Design of Geosynthetic Liner Systems*, CETCO, Inc. Seminar of Seminar on Recent Development in Geosynthetic Liner System Design, Arizona Department of Environmental Quality, Phoenix, Arizona
5 May 2012	*Pre-Design Geotechnical Evaluation of the OII Superfund Site*, 59th Annual Meeting of the Berkeley Geotechnical Society, Berkeley, California
9 February 2012	*Geo-Alchemy: Turning Sand into Sandstone Using Microbial Processes*; Stanford University Department of Civil Engineering Graduate Seminar
25 February 2011	*Pre-Design Geotechnical Evaluation of the OII Superfund Site*, 59th Annual Conference of the Minnesota Geotechnical Society, Minneapolis, Minnesota
7 November 2010	*Research Needs on the Mechanical Properties of Municipal Solid Waste*, First US-India workshop on Global Geoenvironmental Engineering Challenges, New Delhi, India, National science Foundation
14 October 2010	*Sustainable Engineering*¸ Arizona Business and Development Center Conference on Sustainable Engineering and Construction, Phoenix, Arizona
6 October 2010	*Seismic Coefficient for Slope and Retaining Wall Design*, Geotechnical Group, Portland Section, American Society of Civil Engineers, Portland, Oregon
22 July 2010	*Seismic Design of Geomembrane Liner Systems*, GSE Geosynthetics Success Seminar, Walnut Creek, California.
31 May 2010	*Analysis and Design of Final Cover Systems for Municipal Solid Waste Landfills*, CETESB – Companhia Ambiental do Estado de Sao Paulo (Environmental Protection Agency of the State of Sao Paolo), Brazil

7 May 2010	Featured Speaker, GeoMO 2010, with lectures on *Pre-design Geotechnical Investigation of the OII Superfund Site Landfill, Waste Mechanics, Seismic Design of Transportation Facilities,* and *Microbiological Improvement of Soil*, University of Missouri, Rolla, Missouri
30 April 2010	*Pre-Design Geotechnical evaluation of the OII Landfill superfund Site*, 2010 Chicago Geotechnical Lecture Series, Geotechnical Group, Illinois section, American Society of Civil Engineers
29 April 2010	*Microbiological Improvement of the Physical Properties of Soil,* University of Illinois Chicago, Chicago, Illinois
3 December 2009	*Sustainable Landfilling*, Department of Civil Engineering Special Seminar, University of Alabama, Tuscaloosa, Alabama
16 June 2009	*Site Specific Seismic Hazard Analysis for the Greater Phoenix Area*, Annual Meeting of the Seismic Instrumentation Nuclear Users Group (SINUG) of the U.S. Nuclear Power Plant Operator Consortium, Litchfield park, AZ
12 May 2009	*Recent Advances in Geotechnical Earthquake Engineering for Transportation Facilities*, International Conference on Earthquake Engineering on the First Anniversary of the Wenchuan Earthquake, Southwest Jiaotong University, Chengdu, China, May
8 January 2009	*Mechanical Properties of Municipal Solid Waste*, Special Seminar, Department of Civil Engineering, Queens University, Kingston, Ontario, Canada
11 September 2008	*State of the Art Seismic Hazard Analysis for Phoenix*, Phoenix Chapter of the Association of Engineering Geologists, Phoenix, Arizona
13 August 2008	*Microbiological Improvement of the Physical Properties of Soil*, Symposium to Honor Professor James K. Mitchell, International Conference on Case Histories in Geotechnical Engineering, Arlington, Virginia
11 March 2008	*New Horizons in Biogeotechnical Engineering*, GeoCongress '08, The Annual Meeting of the ASCE Geo-Institute, New Orleans, Louisiana

15 January 2008	*Prospects for Biogeotechnical Soil Improvement*, Session on Biological Improvement of Soils, Annual Meeting of the Transportation Research Board, Washington, D.C.
29 May 2007	*Redevelopment of Closed Landfills*, Sacramento Section of the Association of Engineering Geologists
18 May 2007	*Assessment of the Performance of Engineered Barriers*, briefing to the Committee on Geotechnical and Geological Engineering, National Research Council, Washington, DC
22 January 2007	*Geotechnical Earthquake Engineering for the 21st Century*, Session on Seismic Design for the 21st Century, Annual Meeting of the Transportation Research Board, Washington, DC
31 October 2006	*Sustainable Landfilling*, presentation to the Board of Earth Sciences, National Research Council, Irvine, CA
20 October 2006	*Seismic Design of Solid Waste Landfills*, University of Nevada, Las Vegas, NV16 June 2007 Design of Waste Containment Systems, Southeastern University, Nanjing, China
14 June 2006	*Seismic Design of Solid Waste Landfills*, Chinese Academy of Soil and Rock Mechanics, Wuhan, China
12 June 2006	*Mechanical Properties of Municipal Solid Waste*, Zhejiang University, Hangzhou, China
4 March 2006	*Batter Piles for Lateral Loads: A Driven Pile Advantage*, Annual Meeting of the Pile Drivers Contractors Association, San Antonio, Texas
28 February 2006	*The Role of Information Technology in Geotechnical Engineering Education*, GeoCongress06, The Annual Meeting of the ASCE Geo-Institute, Atlanta, Georgia
15 December 2005	*Performance Based Criteria Seismic Design*, Annual Meeting of the Sri Lanka Society for Science, Colombo, Sri Lanka
24 January 2005	*Research Needs for Geotechnical Practice*, US University Council Symposium on Research Needs, *Geofrontiers '05,* Austin, TX

Other Conference Presentations

2018 "Centrifuge Model Testing of Liquefaction Mitigation via Denitrification-Induced Desaturation," ASCE Specialty Conference on Geotechnical Earthquake Engineering and Soil Dynamics V, Austin, Texas, 12 June

2018 "Mitigation of Earthquake-Induced Liquefaction via Microbial Desaturation," 11th US National Conference on Earthquake Engineering, Los Angeles, CA, 29 June

2017 "Application of Enzyme Induced Calcium Carbonate Precipitation for Erosion Control," 42nd Southwest Geotechnical Engineering Conference, FHWA, 2 May

2017 "Process Monitoring of Carbonate Precipitation using S-wave and P-wave Measurements," Session 643: Monitoring of Unsaturated Geomaterials, 96th Annual Meeting of the Transportation Research Board, Washington, DC, 10 January

2016 "Dynamic Properties of Municipal Solid Waste from a Dump Site at Delhi, India," Geo-Chicago 2016: ASCE Geo-Institute Specialty Conference on Sustainability, Energy, and the Environment, Chicago, IL, 17 August

2016 "The Economic Viability of Ground Coupled Heat Pump Systems in Hot and Semi-Arid Climates", Session on Energy Geotechnics Topics and Materials, Geotechnical and Structural Engineering Congress: The 2016 Annual Meeting of the ASCE Geo-Institute, Phoenix, AZ, 17 February

2016 "Bio-Inspired and Bio-Mediated Ground Improvement Technologies", Session on Soil Improvement Methods: Research and Practice (Part 1), Geotechnical and Structural Engineering Congress: The 2016 Annual Meeting of the ASCE Geo-Institute, Phoenix, AZ, 16 February

2015 "Methodology for Evaluation of the Impact of Geomembrane Holes on Leakage Rate through Liner Systems," Sardinia '15 - 15th Annual Symposium on Landfilling and Waste Management, Santa Margherita de Pula, Sardinia, 6 October

2015 "Pre-Design Geotechnical Investigation for the OII Superfund Site Landfill," ASCE Southern California Geo-Institute Chapter Annual Spring Seminar, Long Beach, California, 15 April

2015 "Pre-Design Geotechnical Investigation for the OII Superfund Site Landfill," Annual Geo-Omaha Conference, Omaha, Nebraska, 14 February

2015 "Hot Topics Related to Seismic Design and Performance of Bridges: Geotechnical Issues," (Panel Discussion), *Annual Meeting of the Transportation Research Board*, Washington, DC, 12 January

2014 "Undrained Response of Municipal Solid Waste" *GeoShanghai 2014*, Shanghai, China, 26-28 May

2012 "Microbially-Induced Carbonate Precipitation via Denitrification" (Poster presentation), *NSF CMMI Annual Principal Investigator Conference*, Boston, Massachusetts, 9-10 July

2012 "Post-Liquefaction Structure of Cohesionless Soil" (Poster presentation), *NSF NEES Annual Meeting*, Boston, Massachusetts, 10-11 July

2012 "In Plane-Behavior of Geosynthetic Barrier Layers Subject to Cyclic Loading," *2nd International Conference on Performance Based Earthquake Geotechnical Engineering*, Taormina, Sicily, 29 May

2011 "Biogeotechnical Research Initiatives at ASU," *Second International Workshop on Bio-Geotechnical Engineering,* Cambridge University, Cambridge, England, September

2011 "Site-Specific Response Analysis at Non-Standard Sites," *5th International Conference on Earthquake Geotechnical Engineering*, Santiago, Chile, January

2011 "Seismic Analysis of Heap Leach Pad Liner Systems," *5th International Conference on Earthquake Geotechnical Engineering*, Santiago, Chile, January

2008 "Microbially Induced Precipitation of Calcite Using Pseudomonas Denitrificans," *First International Conference on Biogeotechnical Engineering*, Technical University of Delft, Delft, The Netherlands, May

2008 "The Impact of Degradation on MSW Shear Strength," *GeoCongress '08: Geotechnics of Waste Management and Remediation*, Annual Meeting of the ASCE Geo-Institute, New Orleans, Louisiana, March

2008 "Evaluation of the Mechanical Properties of MSW Using In situ Testing," *International Workshop on Waste Mechanics*, Annual Meeting of the ASCE Geo-Institute, New Orleans, Louisiana, March

2008 "Site-Specific Seismic Hazard Analysis for Building Code Compliance," *Joint Annual Meeting of Cordilleran Section (104th meeting) and Rocky Mountain Section (60th Annual) the Geological Society of America*, University of Nevada, Las Vegas, Nevada, March

Sponsored Research Projects

Principal Investigator, *Gen-3 Engineering Research Center for Bio-mediated and Bio-inspired Geotechnics,* National Science Foundation, 08/01/2015 – 07/31/2020 ($18.5 million)

Principal Investigator, *Collaborative Research: Enhancement of Vertical Elements for Foundation Support by Ureolytic Carbonate Precipitation*, National Science Foundation, 08/20/2012 – 08/19/2015, ($199,442.)

Principal Investigator, *NEESR: Performance Based Seismic Design of Geomembrane Liner Systems for Waste Containment,* National Science Foundation, 07/01/2012 – 12/31/2015 ($299,998)

Co-Principal Investigator, *NEESR-CR: Properties of Cohesionless Soil Subsequent to Liquefaction and Resedimentation,* National Science Foundation (under subcontract to Stanford University), 08/15/2009 – 10/30/2013, ($355,584.)

Principal Investigator, *Microbially-Induced Cementation of Sands by Denitrification,* National Science Foundation Award Number CMMI-0856801, 8/15/2009 – 8/14/2012 ($330,054)

Principal Investigator, *GOALI: Collaborative Research: The Integrity of Geosynthetic Elements of Waste Containment Barrier Systems Subject to Large Settlements and Seismic Loading,* National Science Foundation Award Number CMMI-0800873, 7/01/2008 – 6/30/2011 ($289,580)

Principal Investigator, *Development of the Reference Manual for the National Highway Institute Training Course on Seismic Design of Bridges: Non-Structural Features*, Federal Highway Administration under subcontract to PB Americas, Inc., 2008-2009 ($78,000)

Principal Investigator, *Evaluation of Lateral Earth Pressure Coefficients for Municipal Solid Waste,* National Science Foundation Award Number CMS-0556402, 2006-2007 ($59,973)

Principal Investigator, *SGER: Biological Improvement of the Mechanical Properties of Soil,* National Science Foundation Award Number CMS-0606678, 2006-2007 ($97,123.)

Principal Investigator, *Static and Dynamic Properties of Municipal Solid Waste,* National Science Foundation Award Number CMS 02-02159, 2002-2005 ($204,000 *approx*)

Project Manager, *Landfill Performance Study*, California Integrated Waste Management Board, 2001-2003 ($550,000 *approx.*)

Principal Investigator, *Stability Analysis for Encapsulated Geosynthetic Clay Liners*, GSE Inc., 2000 – 2001 ($10,000 *approx.*)

Principal Investigator, *Shear Wave Velocity Measurements during Ground Improvement at a Municipal Solid Waste Site in South Carolina*, National Science Foundation Award Number CMS 98-13564, 1998-2000 ($31,000 *approx.)*

Principal Investigator, *Performance of Landfills in the 1994 Northridge Earthquake*, National Science Foundation Earthquake Hazard Mitigation Program Award Number BCS 94-22161, 1994 – 1996 ($54,000 *approx)*

Co-Principal Investigator, *Workshop on Seismic Design of Solid Waste Landfills*, National Science Foundation Award Number BCS 93-17931, 1993, ($20,000 *approx*)

Principal Investigator, *Non-Intrusive Measurement of Shear Wave Velocity at Solid Waste Landfills*, National Science Foundation Award Number BCS 93-12744, 1993 ($25,000*)*

Principal Investigator, *Application of Probability and Reliability to Geotechnical Problems*, U.S. Army Corps of Engineers Waterways Experiment Station, 1984-1983 ($9,998*)*

Principal Investigator, *Development of Pore Water Pressure During Non-Uniform Cyclic Loading*, National Science Foundation Contract CEE 82-10616, 1982 – 1984 ($200,000 *approx.)*

Principal Investigator, *Performance of Embankments Founded Upon Soft Soils*, National Science Foundation, Contract CEE 82-04320, 1982 – 1983 ($120,000 *approx.)*

Principal Investigator, *Liquefaction Hazard Mapping for San Francisco*, United States Geological Survey Contract Number 14-08-0001-2059, 1981 – 1982 ($65,000 *approx.)*

Principal Investigator, *Determination of the Dynamic Material Properties of Soil from the Results of Static Tests*, National Science Foundation, 1980-1981 ($60,000 *approx.)*

<u>Student Advising (as Lead Advisor)</u>

Ph.D. Dissertations in Progress

1. Kimberly Martin (May 2020)
2. Neda Javadi (May 2020)
3. Caitlyn Hall (May 2020)
4. Miriam Wooley (December 2020)

5. Vinay Lakshminarayanan (May 2021)

PhD Dissertations Completed

1. Abdullah Almajed (August 2017)
2. Xuan Wu (May 2017)
3. Sean O'Donnell (May 2016)
4. Angel Gutierrez (August 2016)
5. Nasser Hamdan, PhD (January 2015)
6. Mohamed Arab (ASU) (August 2011)
7. Simon Ghanat (ASU) 05/2011
8. Abdullah Alsanad (ASU) 05/2011
9. Ismail Karatas (ASU), 11/2008
10. Bongseong Seo (ASU), 10/2008
11. Charles Patterson (Stanford University), 1994
12. Said Salah-Mars (Stanford University), 1989
13. Hsii-Sheng Hsieh (Stanford University) 1987
14. Jaw-Nan Wang (Stanford University) 1987
15. Carlton Ho (Stanford University) 1984
16. Ronaldo Borja (Stanford University) 1984
17. Tarik Hadj-Hamou (Stanford University) 1983

Master of Science Dissertations Completed

1. Juan Paez (12/2018)
2. Jonathan Ross (12/2018)
3. Jake Andresen (ASU 5/2017)
4. Timothy North (ASU 12/2014)
5. Brian Knorr (ASU 5/2014)
6. Xuan Wu (ASU) 12/2013
7. Angel Gutierrez (ASU) 8/2013
8. Nasser Hamdan (ASU) 12/2012
9. Kanyembo Katapa (ASU) 8/2011
10. Zbigniew Czupak (ASU) 8/2011

11. Simon Ghanat (ASU) 10/2008

Master of Science in Engineering Completed

12. Dylan Curet (ASU) 05/2017
13. Alyssa Mittlehauser (ASU) 12/2015
14. Daniel Rothman (ASU) 12/2015
15. Abdullah Almajed (ASU) 8/2015
16. Evan Benson (ASU) 5/2015
17. Jesus Esquivel (ASU) 5/2015

Engineers Dissertations Completed

1. Hsing-Lian Jong (Stanford University) 1985
2. Hsii-Sheng Hsieh (Stanford University) 1984
3. Jaw-Nan Wang (Stanford University) 1984
4. Patrick Poepsel (Stanford University) 1984
5. Richard Roth (Stanford University) 1983
6. Heriberto Echezuria (Stanford University) 1983
7. T. Hadj-Hamou (Stanford University) 1981
8. Said Salah-Mars (Stanford University) 1980

Journal Editorial Boards

2007-	Geomembranes and Geotextiles
2008-2012	International Journal of Case Histories in Geotechnical Engineering

Appointments

2013-2017	National Research Council Study Committee on State of the Art and Practice in Earthquake-Induced Soil Liquefaction Assessment (Chairman)
2009-2013	National Research Council Board of Earth Sciences Resources (BESR)
2008-2013	National Research Council Standing Committee on Geotechnical and Geological Engineering (COGGE) [Committee Chair]

2005-2007 National Research Council Study Committee on Assessment of the Performance of Engineered Barriers

2003-2005 National Research Council Study Committee on Geotechnical and Geological Engineering in the New Millennium: Opportunities for Research and Innovation

Professional Service Leadership Positions

2018- Past-President, United States Universities Council for Geotechnical Engineering and Research

2015-2018 President, United States Universities Council for Geotechnical Engineering and Research

2012-2015 Board of Directors, United States Universities Consortium for Geotechnical Engineering and Research

2012-2014 Chair, ASCE Geo-Institute Past-Presidents Committee

2012-2013 Chair, ASCE Geo-Institute Conference Planning Task Force

2010-2011 Immediate Past-President, ASCE Geo-Institute

2009-2010 President, ASCE Geo-Institute

2008-2013 Chair, Committee on Geotechnical and Geological Engineering, Division of Earth and Life Science, National Research Council

2008-2009 Vice President and President-Elect, ASCE Geo-Institute

2005-2011 Governor, Board of Governors, ASCE Geo-Institute

2005-2015 Chairman, GeoSeismic Subcommittee, Committee on Seismic Design and Performance of Bridges, Transportation Research Board

2001-2005 Chairman, Technical Coordination Council, ASCE Geo-Institute

2000-2001 Councilor, Technical Coordination Council, ASCE Geo-Institute

1998-2000 Chairman, Embankments, Dams, and Slopes Committee, ASCE Geo-Institute

1995-1996 Chairman, Geotechnical Group, ASCE Los Angeles Section

1990-1995 Director, Geotechnical Group, ASCE Los Angeles Section

1980-1985 Director, Geotechnical Group, ASCE San Francisco Section

1984-1985 Chair, Reliability Committee, ASCE Geotechnical Engineering Division

Technical Committees

2010-	Member, Executive Committee, TC 215 Environmental Geotechnics, International Society of Soil Mechanics and Geotechnical Engineering
2008-2013	Member, Board of Earth Sciences and Resources, Division of Earth and Life Science, National Research Council
2009-2017	Member, Committee on Foundations for Bridges and Other Structures, Transportation Research Board
2007-2013	Member, Committee on Geotechnical and Geological Engineering, Division of Earth and Life Science, National Research Council
2003-2015	Member, Earthquake Investigation Committee, ASCE Technical Council on Lifeline Earthquake Engineering
2005-	Member, Joint Sub-Committee on GeoSeismic Concerns, Committees on Seismic Design and Performance of Bridges and Foundations for Bridges and Other Structures, Transportation Research Board
2003-2018	Member, Committee on Seismic Design and Performance of Bridges, Transportation Research Board
1997-2005	Member, Committee on Foundations for Bridges and Other Structures, Transportation Research Board
1994-1998	Member, Embankments, Dams, and Slopes Committee, ASCE Geo-Institute
1992-2005	Member, Transportation Committee, ASCE Technical Council on Lifeline Earthquake Engineering
1988-2001	Member, Seismic Risk Committee, ASCE Technical Council on Lifeline Earthquake Engineering
1986-1988	Member, Continuing Education Committee, Geotechnical Group. ASCE Metropolitan (NY/NJ) Section
1980-1984	Member, Reliability Committee, ASCE Geotechnical Engineering Division

Professional Societies

American Society of Civil Engineers (ASCE) Geo-Institute

International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)

North American Geosynthetics Society (NAGS)

International Geosynthetics Society (IGS)

Solid Waste Association of North America (SWANA)

Unites States Society on Dams (USSD)

Earthquake Engineering Research Institute (EERI)