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Academic Employment

Professor (July 2012-present), Department of Civil and Environmental Engineering, University of California, Davis, CA.

Overseas Fellow (January 2016-August 2016), Churchill College and *Academic Visitor*, Department of Engineering, University of Cambridge, Cambridge, UK.

Associate Professor (July 2007-June 2012), Department of Civil and Environmental Engineering, University of California, Davis, CA.

Gledden Fellow (January 2010-July 2010), Institute for Advanced Studies, University of Western Australia, Perth, Western Australia.

Assistant Professor (July 2005-June 2007), Department of Civil and Environmental Engineering, University of California, Davis, CA.

Assistant Professor (January 2002-July 2005), Department of Civil and Environmental Engineering, University of Massachusetts, Amherst, MA

National Science Foundation International Research Fellow (2001-2002), Center for Offshore Foundation Systems, University of Western Australia, Perth, Australia

Education

Ph.D. – Georgia Institute of Technology, School of Civil and Environmental Engineering (May 2001)

M.S.C.E. – Georgia Institute of Technology, School of Civil and Environmental Engineering (December 1997)

B.S.C.E. with High Honors – University of California, Davis, Department of Civil and Environmental Engineering, College of Engineering (March 1996)

Professional Awards and Honors

Honors and Awards

Outstanding Mid-Career Faculty Research Award, College of Engineering, UC Davis (2016)

ICE Telford Premium Prize (2016), Paper of the Year for Ground Improvement Journal

ASTM International Hogentogler Award (2015)

ICE TK Hsieh Prize (2014)

ASCE Walter L. Huber Civil Engineering Research Prize (2013)

Shamsher Prakash Research Award (2011)

ASCE Arthur Casagrande Professional Development Award (2007)

ASTM International Hogentogler Award (2003)

Lilly Teaching Fellowship (2003-2004), Center for Teaching, University of Massachusetts Amherst

Sowers Outstanding Graduate Student Award (2001), Geosystems Group, Civil and Environmental Engineering, Georgia Institute of Technology

ADSC Civil Engineering Graduate Study Scholarship (1998-99), American Drilled Shaft Contractors and International Association of Foundation Drilling
Presidential Fellowship (1997-2001), Georgia Institute of Technology
Schnabel Engineering Research Grant (1997), Schnabel Engineering
Star Enterprise Fellowship (1996-98), Texaco-Star
Dean's List, College of Engineering, University of California, Davis (1994-1996)

Industry and Consulting Experience

GeoPentech Inc. (2021-present) – technical advisor for Pleasant Valley Dam seismic stability evaluation
GEI Inc. (2021) – laboratory testing on intermediate soils, data interpretation, and selection of design parameters
LADWP (2019) – staff training on site characterization and consulting on site characterization programs for several large dam projects (Tinnemaha Dam, Eagle Rock Dam, North Haiwee Reservoir Dam)
ConeTec Inc. (2017-present) – technical guidance, oversight, and review of site characterization practices using insitu testing (CPT, SPT, iBPT) and drilling and sampling (Sonic, mud rotary, etc.) methods
Orsted/Fugro/NGI & Carbon Trust (2020-present) – technical guidance and review board member on project for developing variable cone penetration testing in silty soils
US BoR/CA DWR/HDR (2017-2019) – technical review and oversight of site characterization program for B.F. Sisk Dam
Grant County PUC (2016-2021) – technical guidance on characterization of natural alluvium and rock fill at Wanapum Dam and Priest Rapids Dam sites
Kleinfelder/LADWP (2016-present) – technical review and guidance on site characterization, seismic evaluation, and mitigation designs for LADWP dams and infrastructure
AMEC Foster Wheeler (2017-2018) – technical review and guidance on characterization and liquefaction mitigation of inert fill in gravel quarry
LADWP (2015) – staff training on site characterization and consulting on site characterization programs for several large dam projects
AECOM/CA DWR (2015) – peer review of levee vegetation report and research program
ConeTec Inc. (2014) – short course on site characterization of soft sediments
HDR Inc. (2014-2015) – site investigation and characterization of Newport Dams
Geosyntec Consultants (2012) – design, implementation, and analysis of bio-cementation field trial
California Department of Water Resources (w/ GEI Consultants) (2012) – development of seismic design criteria for California delta region
ConeTec Inc. (2011) – evaluation and recommendations on full-flow testing in very soft sediments
Meyers-Allison LLC. (2008-2011) – expert witness in legal case regarding ground improvement
Fugro Offshore (2008-2010) – evaluation and recommendations of CPT u_2 saturation and measurement procedures
GEI Consultants (2008-2009) – training of engineers and evaluation of levee stability project for California
gINT (2008-2009) – evaluation and development of geotechnical design software
ENGEO (2007-2008) – examination of intermediate soil behavior subjected to dynamic loading assessed through advanced laboratory testing.
Earth Mechanics (2007) – examination of rate effects on old bay mud for seismic reassessment of Dumbarton-Antioch bridge.

Schnabel Engineering (1998-2000) – consultant on investigation of causes of failed cofferdam.

Long, Weinberg, Ansley and Wheeler (1997) – consultant to determine validity of construction complaint of engineer design on Pickettville Road Landfill Site Remedial Construction.

Publications

Reviewed Journals

- J1. Zettler, T.E., Frost, J.D., and DeJong, J.T. “Shear Induced Changes in Geomembrane Surface Topography” *Geosynthetics International*, 2000, 7(3):243-267.
- J2. DeJong, J.T., Frost, J.D., and Cargill, P.E. “Effect of Surface Texturing on CPT Friction Sleeve Measurements” *American Society of Civil Engineers, Journal of Geotechnical and Geoenvironmental Engineering*, 2001, 127(2): 158-168.
- J3. DeJong, J.T and Frost, J.D. “A Multisleeve Friction Attachment for the Cone Penetrometer” *American Society for Testing and Materials, Journal of Geotechnical Testing*, 2002, 25(2):111-127.
- J4. DeJong, J.T., Frost, J.D., and Saussus, D.R. “Measurement of Relative Surface Roughness at Particulate-Continuum Interfaces” *American Society for Testing and Materials, Journal of Testing and Evaluation*, 2002, 30(1): 8-19.
- J5. Frost, J.D., DeJong, J.T., and Recalde, M. “Shear Failure Behavior of Granular-Continuum Interfaces” *Engineering Fracture Mechanics*, 2002, 69(17): 2029-2048.
- J6. Frost, J.D., Zettler, T.E., DeJong, J.T., Lee, S.W., and Kagbo, S. “Strain Induced Changes in Geomembrane Surface Topography” *Geosynthetics International*, 2002, 9(1): 21-20.
- J7. DeJong, J.T., Randolph, M.F., and White, D.J. “Interface Load Transfer Degradation During Cyclic Loading: A Microscale Investigation” *Soils and Foundations*, 2003, 43(4): 81-94.
- J8. Saussus, D.R., Frost, J.D., and DeJong, J.T. “Statistical Analysis of Friction Sleeve Length Effects on Soil Classification” *International Journal of Numerical and Analytical Methods in Geomechanics*, 2004, 28(12):1257-1278.
- J9. Frost, J.D. and DeJong, J.T. “In Situ Assessment of Role of Surface Roughness on Interface Response” *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 2005, 131(4):498-511.
- J10. Frost, J.D., DeJong, J.T., and Saussus, D.R. “Analytical Investigation of Friction Sleeve Length Effects on Stratigraphic Interpretation” *American Society of Civil Engineers, International Journal of Geomechanics*, 2006, 6(1):11-29.
- J11. DeJong, J.T. and Westgate, Z.J. “Role of Overconsolidation on Sand-Geomembrane Interface Response and Material Damage Evolution” *Geotextiles and Geomembranes*, 2005, 23:486-512.
- J12. DeJong, J.T., White, D.J., and Randolph, M.F. “Microscale Observation and Modelling of Soil-Structure Interface Behavior Using Particle Image Velocimetry” *Soils and Foundations*, 2006, 46(1):15-28.
- J13. DeJong, J.T., Fritzges, M.B., and Nüsslein, K. “Microbial Induced Cementation to Control Sand Response to Undrained Shear” *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 2006, 132(11):1381-1392.
- J14. Civjan, S., Bonczar, C., Breña, S.F., DeJong, J.T., and Crovo, D. “Integral Abutment Bridge Behavior: Parametric Analysis of a Massachusetts Bridge” *ASCE Journal of Bridge Engineering*, 2006, 21(1):64-74.

- J15. Ostendorf, D.W., Hinlein, E.S., Ahlfeld, D.P., and DeJong, J.T. “Calibrated Models of Deicing Agent Solids, Pavement Texture, and Specific Conductivity of Highway Runoff” *American Society of Civil Engineers, Journal of Environmental Engineering*, 2006, 132(12):1562-1571.
- J16. DeJong, J.T., Yafrate, N.J., and Don. J. DeGroot. “Development of a Miniature Piezoprobe for High Resolution Detection of Stratigraphic Interfaces” *ASTM Geotechnical Testing Journal*, 2007, 30(4):1-11.
- J17. Breña, S. F., Bonczar, C., Civjan, S.A., DeJong, J.T., and Crovo, D.S. “Evaluation of Seasonal and Yearly Behavior of an Integral Abutment Bridge” *ASCE Journal of Bridge Engineering*, 2007, 12(3):296-305.
- J18. DeJong, J.T. and Christoph, G.G. “Influence of Particle Properties and Initial Specimen State on 1-D Compression and Hydraulic Conductivity at High Stress Levels” *ASCE Journal of Geotechnical Engineering*, 2009, 135(3):449-454.
- J19. DeJong, J.T. and Westgate, Z.J. “Role of Initial State, Material Properties, and Confinement Condition on Local and Global Soil-Structure Interface Behavior” *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 2009, 135(11):1646-1660.
- J20. Yafrate, N.J., DeJong, J.T., DeGroot, D.J., and Randolph, M.R. “Evaluation of Remolded Shear Strength and Sensitivity of Soft Clay using Full-Flow Penetrometers”, *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 2009, 135(9):1179-1189.
- J21. DeJong, J.T., Mortensen, B.M., Martinez, B.C., and Nelson, D.C. “Bio-Mediated Soil Improvement” *Ecological Engineering*, 2010, 36:197-210.
- J22. DeJong, J.T., Yafrate, N.J., DeGroot, D.J., Lo, H.E., and Randolph, M.F. “Recommended Practice for Full-Flow Penetrometer Testing and Analysis”, *ASTM Geotechnical Testing Journal*, 2010, 33(2):137-149.
- J23. Armstrong, R.A., DeJong, J.T., and Yafrate, N.J. “Engaging students with diverse learning styles in large, media-intensive engineering classes using an integrated Tablet PC – Classroom Communication System Platform” *Electronic Journal of Geotechnical Engineering*, 2010, 15H:773-794.
- J24. DeJong, J.T., Yafrate, N.J., DeGroot, D.J., and Randolph, M.F. “Evaluation of Undrained Shear Strength Using Full-Flow Penetrometers”, *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 2011, 137(1):14-26.
- J25. DeJong, J.T., Soga, K., Banwart, S.A., Whalley, W.R., Ginn, T., Nelson, D.C. Mortensen, B.M., Martinez, B.C., and Barkouki, T. “Soil Engineering In-vivo: Harnessing Natural Biogeochemical Systems for Sustainable, Multi-Functional Engineering Solutions”, *J. Royal Society Interface*, 2011, 8:1-15.
- J26. Tagliaferri, F., Waller, J., Ando, E., Hall, S.A., Viggiani, G., Besuelle, P., and DeJong, J.T. “Observing Strain Localisation Processes in Bio-cemented Sand using X-ray Imaging” *Granular Matter*, 2011, 13:247-250.
- J27. Mortensen, B.M., Haber, M.J., DeJong, J.T., Caslake, L.F., and Nelson, D.C. “Effects of Environmental Factors on Microbial Induced Calcium Carbonate Precipitation” *Applied Microbiology*, 2011, 111(2):338-349.
- J28. Barkouki, T.H., Martinez, B.C., Mortensen, B.M., Weathers, T.S., DeJong, J.T., Spycher, N.F., Ginn, T.R., Smith, R.W., and Fujita, Y. “Forward and Inverse Bio-Geochemical Modeling of Microbially Induced Calcite Precipitation in Half-Meter Column Experiments” *Transport in Porous Media*, 2011, 90:23-39.

- J29. DeJong, J., Randolph, M., DeGroot, D., and Yafrate, N. "Closure to "Evaluation of Remolded Shear Strength and Sensitivity of Soft Clay Using Full-Flow Penetrometers" *ASCE J. Geotech. Geoenviron. Eng.*, 2011, 137(4):440-441.
- J30. Weil, M.H., J.T. DeJong, B.C. Martinez, B.M. Mortensen, and J.T. Waller "Seismic and Resistivity Measurements for Real-Time Monitoring of Microbially Induced Calcite Precipitation in Sand" *ASTM Journal of Geotechnical Testing*, 2012, 35(2):1-12.
- J31. DeJong, J.T., DeGroot, D.J., and Yafrate, N.J. "Closure to Discussion of 'Evaluation of Undrained Shear Strength Using Full-Flow Penetrometers'" *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 2012, 138(6):765-767.
- J32. DeJong, J.T. and Randolph, M.F. "Influence of Partial Consolidation during Cone Penetration on Estimated Soil Behavior Type and Pore Pressure Dissipation Measurements" *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 2012, 138(7):777-788.
- J33. Montoya, B.M., Gerhard, R., DeJong, J.T., Wilson, D., Weil, M.H., Martinez, B.C., and Pederson, L. "Fabrication, Operation, and Health Monitoring of Bender Elements in Aggressive Environments" *ASTM Journal of Geotechnical Testing*, 2012, 35(5):728-742.
- J34. Martinez, B.C., DeJong, J.T., Mortensen, B.M., Barkouki, T.H., Ginn, T.R., Hunt, C., Tanyu, B., Major, D. "Experimental Optimization of Microbial Induced Carbonate Precipitation" *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 2013, 139(4):587-598.
- J35. Montoya, B.M., DeJong, J.T., and Boulanger, R.W. "Dynamic Response of Liquefiable Sand Improved by Microbial Induced Calcite Precipitation" *Geotechnique*, 2013, 63(4):302-312.
- J36. 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., and Weaver, T. "Biogeochemical Processes and Geotechnical Applications: Progress, Opportunities, and Challenges" *Geotechnique*, 2013, 63(4):287-301.
- J37. Montoya, B.M. and DeJong, J.T. "Healing of biologically induced cemented sands", *Geotechnique Letters*, 2013, 3:147-151.
- J38. Martinez, B.C., DeJong, J.T., and Ginn, T.R. "Bio-geochemical reactive transport modeling of microbial induced calcite precipitation to predict the treatment of sand in one-dimensional flow" *Computers and Geotechnics*, 2014, 58:1-13.
- J39. Bernardi, D., DeJong, J.T., Montoya, B.M., and Martinez, B.C. "Bio-bricks: Biologically cemented sandstone bricks" *Construction and Building Materials*, 2014, 55:462-469.
- J40. Ghafghazi, M., Shuttle, D.A., and DeJong, J.T. "Particle Breakage and the Critical State of Sand" *Soils and Foundations*, 2014, 54(3):451-461.
- J41. Gomez, M.G., Martinez, B.C., DeJong, J.T., Hunt, C.E., deVlaming, L.A., Major, D.W., and Dworatzek, S.M. "Field Scale Bio-cementation Tests to Improve Sands", *Ground Improvement*, 2014, 11 pgs.
- J42. Maki, I., Boulanger, R.W., DeJong, J.T., and Jaeger, R. "State-based Overburden Normalization of Cone Penetration Resistance in Clean Sand", *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2014, 140(2): 04013006.

- J43. Dahl, K. R., DeJong, J. T., Boulanger, R. W., Pyke, R., and Wahl, D. “Characterization of an alluvial silt and clay deposit for monotonic, cyclic and post-cyclic behavior” *Canadian Geotechnical Journal*, 2014, 51:432-440.
- J44. DeJong, J.T., Martinez, B.C., Ginn, T.R., Hunt, C.E., Major, D.W., and Tanyu, B. “Development of A Scaled Repeated Five-Spot Treatment Model for Examining Microbial Induced Calcite Precipitation Feasibility in Field Applications” *ASTM Geotechnical Testing Journal*, 2014, 37(3):1-12.
- J45. DeJong, J.T., Tibbett, M., and Fourie, A. “Geotechnical Systems that Evolve with Ecological Processes” *Environmental Earth Sciences*, 2014, 73(3):1067-1083.
- J46. DeJong, J.T., Ghafghazi, M., Sturm, A., Armstrong, R., Perez, A., and Davis, C. “A New Instrumented Becker Penetration Test (iBPT) for Improved Characterization of Gravelly Deposits Within and Underlying Dams, 2014, *The Journal of Dam Safety*, 12(2):9-19.
- J47. Klar, A. Pinkert, S. and DeJong, J.T. “Evaluation of the soil strength rate parameter using full-flow penetrometers”, *ICE Geotechnical Research*, 2014, 1(2):53-59.
- J48. Krage, C.P., DeJong, J.T., and Schnaid, F. “Estimation of the Coefficient of Consolidation from Incomplete CPT Dissipation Tests”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2015, 141(2): 06014016.
- J49. Montoya, B.M. and DeJong, J.T. “Stress-Strain Behavior of Sands Cemented by Microbially Induced Calcite Precipitation”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2015, 141(6):04015019.
- J50. Park, D.S., Kutter, B.L., and DeJong, J.T. “Effects of Thixotropy and Cement Content on Sensitivity of Soft Remolded Clay”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2015, 141(2):04014095,
- J51. Dumlao, M.R., Ramanarivo, S., Goyal, V., DeJong, J.T., Waller, J., and Silk, W.K. “The role of root development of *Avena fatua* in conferring soil strength”, *American Journal of Botany*, 2015, 102(7):1050-1060.
- J52. Hoyos, L.R., DeJong, J.T., McCartney, J.S., Puppala, A.J., Reddy, K.R., and Zekkos, D. “Environmental geotechnics in the US region: a brief overview”, *ICE Environmental Geotechnics*, 2015, 7.
- J53. Proto, C.J., DeJong, J.D., Nelson, D.C., and Sturm, A.P. “Bio-Mediated Permeability Reduction of Saturated Sands”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2016, 142(12):04016073.
- J54. Krage, C.P. and DeJong, J.T. “Influence of Drainage Conditions during Cone Penetration on the Estimation of Engineering Properties and Liquefaction Potential of Silty and Sandy Soils”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2016, 142(11):04016059.
- J55. DeJong, J.T., Sturm, A., and Ghafghazi, M. “Characterization of Gravelly Alluvium”, *Soil Dynamics and Earthquake Engineering*, 2016, 91:104–115.
- J56. Boulanger, R.W., Moug, D.M., Munter, S.K., Price, A.B., and DeJong, J.T. “Evaluating liquefaction and lateral spreading in interbedded sand, silt, and clay deposits using the cone penetrometer”, *Australian Geomechanics*, 2016, 51(4):109-128.
- J57. DeJong, J.T., Ghafghazi, M., Sturm, A.P., Wilson, D.W., den Dulk, J., Armstrong, R.J., Perez, A., and Davis, C.A. “Instrumented Becker Penetration Test, I: Equipment, Operation, and Performance”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2017, 143(9):04017062.

- J58. Ghafghazi, M., DeJong, J.T., Sturm, A.P., Temple, C.E. “Instrumented Becker Penetration Test, II: iBPT- SPT correlation for liquefaction assessment in gravelly soils”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2017, 143(9):04017063.
- J59. Gomez, M.G., Anderson, C.M., DeJong, J.T., Nelson, D.C., Graddy, C.M., and Ginn, T.R. “Large-scale Comparison of Bioaugmentation and Biostimulation Approaches for Bio-cementation of Sands”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2017, 143(5):04016124.
- J60. Kuei, C.K., Ghafghazi, M., and DeJong, J.T. “Pile Driving Mechanics at the Base as Informed by Direct Measurements”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2017, 143(9):04017064.
- J61. Ghafghazi, M., DeJong, J.T., and Wilson, D. “Review of Becker Penetration Test Interpretation Methods for Liquefaction Assessment in Gravelly Soils”, *Canadian Geotechnical Journal*, 2017, 54(9): 1272-1283.
- J62. Price, A.B., DeJong, J.T., and Boulanger, R.W. “Cyclic Loading Response of Silt with Multiple Loading Events”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2017, 143(10):04017080.
- J63. Kendall, A., Raymond, A.J., Tipton, J., and DeJong, J.T. “Review of life-cycle-based environmental assessments of geotechnical systems”, *ICE Engineering Sustainability*, 2017, 171(2):57-67.
- J64. Nassar, M.K., Gurung, D., Bastani, M., Ginn, T.R., Shafei, B., Gomez, M.G., Graddy, C.M.R., Nelson, D.C., and DeJong, J.T. “Large-Scale Experiments in Microbially Induced Calcite Precipitation (MICP): Reactive Transport Model Development and Prediction”, *Water Resources Research*, 2018, 54(1):480-500.
- J65. Dienstmann, G., Schnaid, F., Maghous, S., and DeJong, J.T. “Piezocone penetration rate effects in transient gold tailings”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2018, 144(2):04017116.
- J66. Gomez, M.G., Graddy, C.M.R., DeJong, J.T., Nelson, D.C., and Tsesarsky, M. “Stimulation of Native Microorganisms for Biocementation in Samples Recovered from Field-Scale Treatment Depths”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2018, 144(1):04017098.
- J67. DeJong, J.T., Krage, C.P., Albin, B.M., and DeGroot, D.J. “Work-Based Framework for Sample Quality Evaluation of Low Plasticity Soils”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2018, 144(10):04018074.
- J68. Gomez, M.G., DeJong, J.T., and Anderson, C.M. “Effect of bio-cementation on geophysical and cone penetration measurements in sands”, *Canadian Geotechnical Journal*, 2018, 55:1632-1646.
- J69. Graddy, C.M.R., Gomez, M.G., Kline, L.M., Morrill, S.R., DeJong, J.T., and Nelson, D.C. “Diversity of Sporosarcina-like Bacterial Strains Obtained from Meter-Scale Augmented and Stimulated Biocementation Experiments”, *Environmental Science and Technology*, 2018, 52(7):3997-4005.
- J70. Lukas, W.G., DeGroot, D.J., DeJong, J.T., Krage, C.P., and Zhang, G. “Undrained Shear Behavior of Low-Plasticity Intermediate Soils Subjected to Simulated Tube-Sampling Disturbance”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(1):04018098.
- J71. Moug, D., Boulanger, R.W., DeJong, J.T., and Jaeger, R. “Axisymmetric Simulations of Cone Penetration in Saturated Clay”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(4):04019008.

- J72. Darby, K.M., Boulanger, R.W., DeJong, J.T., and Bronner, J.D. “Progressive changes in liquefaction and cone penetration resistance across multiple shaking events in centrifuge tests”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(3):04018112.
- J73. Wang, Y., Soga, K., DeJong, J.T., and Kabla, A.J. “A microfluidic chip and its use in characterising the particle-scale behaviour of Microbial-Induced Calcium Carbonate Precipitation (MICP)”, *Geotechnique*, 2019, 69(12):1086-1094.
- J74. Darby, K.M., Hernandez, G.L., DeJong, J.T., Boulanger, R.W., Wilson, D.W., and Gomez, M.G. “Centrifuge model testing of liquefaction mitigation via microbially induced calcite precipitation”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(10):04019084.
- J75. Boulanger, R.W., Munter, S.K., Krage, C.P., and DeJong, J.T., “Liquefaction Evaluation for an Interbedded Soil Deposit: Çark Canal in the 1999 M7.5 Kocaeli Earthquake”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(9): 05019007.
- J76. Wang, Y., Soga, K., DeJong, J.T., and Kabla, A.J. “Micro-scale visualization of Microbial-Induced Calcium Carbonate Precipitation (MICP) processes”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(9): 04019045.
- J77. Martinez, A., DeJong, J.T., Jaeger, R.A., and Khosravi, A. “Evaluation of Self-Penetration Potential of a Bio-Inspired Site Characterization Probe by Cavity Expansion Analysis”, *Canadian Geotechnical Journal*, 2020, 57(5):706-716.
- J78. Moug, D.M., Price, A.B., Parra-Bastidas, A.M., Darby, K.M., Boulanger, R.W., and DeJong, J.T. “Mechanistic Development of CPT-based Cyclic Strength Correlations for a Clean Sand”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(10): 04019072.
- J79. Gomez, M.G., Graddy, C.M.R., DeJong, J.T., and Nelson, D.C. “Biogeochemical Changes During Bio-cementation Mediated by Stimulated and Augmented Ureolytic Microorganisms”, *Scientific Reports*, (2019) 9(1):1-15.
- J80. Darby, K.M, Boulanger, R.W., and DeJong, J.T. “Effect of partial drainage on cyclic strengths of saturated sands in dynamic centrifuge tests”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(11): 04019089.
- J81. Price, A.B., Boulanger, R.W., and DeJong, J.T. “Centrifuge Modelling of Variable Rate Cone Penetration in Low-plasticity Silts”, *ASCE J. Geotechnical and Geoenvironmental Engineering*, 2019, 145(11): 04019098.
- J82. Raymond, A.J., Tipton, J.R., Kendall, A., and DeJong, J.T. “Review of Impact Categories and Environmental Indicators for Life Cycle Assessment of Geotechnical Systems”, *Journal of Industrial Ecology*, 2020, 24:485-499.
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14. Chen, Y., DeJong, J.T., Jaeger, R.A., and Martinez, A. "Scaling of burrowing resistances with sediment depth: a geomechanical perspective." *Society for Integrative and Comparative Biology (SICB) Meeting*, 2021.

Curated Datasets

1. Park, D.S., Kutter, B., and DeJong, J.T. (2013). Stability of Sensitive Clay Slopes. Network for Earthquake Engineering Simulation (distributor), Dataset. DOI: 10.4231/D3MC8RG3C
2. Montoya, B., DeJong, J.T., and Boulanger, R.W. (2013). "MICP-07 Untreated Loose Sand", Network for Earthquake Engineering Simulation (database), Dataset, DOI:10.4231/D3HM52J97
3. Parra Bastidas, A.M., Boulanger, R.W., Carey, T.J., and DeJong, J.T. (2016). "Ottawa F-65 Sand Data from Ana Maria Parra Bastidas". NEEShub [publisher], Dataset, <http://dx.doi.org/10.17603/DS2MW2R>
4. DeJong, J.T. and Boulanger, R.W. (2018). "Direct simple shear testing for silica silt and kaolin mixtures", DesignSafe-CI [publisher], Dataset, doi:10.17603/DS2SQ30
5. Boulanger, R.W. and DeJong, J.T. (2018), "Centrifuge modelling of variable rate cone penetration in low-plasticity silts", DesignSafe-CI [publisher], Dataset, doi:10.17603/DS2J67J
6. Boulanger, R.W. and DeJong, J.T. (2018). "Effect of strain history on cone penetration resistance and cyclic strength of saturated sand", DesignSafe-CI [publisher], Dataset, doi:10.17603/DS24T25
7. DeJong, J.T. and Boulanger, R.W. (2018). "One-dimensional compression testing for low-plasticity silts", DesignSafe-CI [publisher], Dataset, doi:10.17603/DS2839G
8. Boulanger, R.W., DeJong, J.T., Darby, K., and Bronner, J. (2018). "PRJ-2014: Effect of prior strain history on cone penetration resistance and cyclic strength of saturated sand: 1-m radius centrifuge tests", DesignSafe-CI [publisher], Dataset, doi:10.17603/DS25T13.
9. Hernandez, G., Darby, K., DeJong, J.T., Boulanger, R.W., and Wilson, D. (2020). "PRJ-2013: Liquefaction resistance of MICP treated sands", DesignSafe-CI [publisher], Dataset, [multiple DOIs].
10. Khosravi, M., Khosravi, A., Boulanger, R.W., DeJong, J.T., Wilson, D., and Hajjalilue Bonab, D. (2021). "PRJ-1844: Liquefaction evaluations of finely interlayered sands, silts, and clays", DesignSafe-CI [publisher], Dataset, 10.17603/ds2-t4kz-0c30.

Conference Proceedings

1. Mayne, P.W., Rathje, E., DeJong, J., Rechenmacher, A., Yamamuro, J., Sharma, S., and Willson, C. *Site Characterization and Modeling, American Society of Civil Engineers Geotechnical Special Publication 138*, Geo-Frontiers 2005 Austin Conference, 2005.
2. DeGroot, D., DeJong, J.T., Frost, J.D., and Baise, L. *Proceedings of Geotechnical Engineering in the Information Technology Age Conference, GeoCongress Atlanta 2006*, February 26 – March 1, 2006.

Book Chapters

1. Mayne, P.W., Christopher, B.S., and DeJong, J. (2008). Chapter 9: “Ground Properties” in *Geology for Civil Engineers*, Thomas Telford Publishing, London, 222-251.
2. DeJong, J.T. and Kavazanjian, E. (2019). Chapter 6: “Bio-mediated and Bio-inspired Geotechnics” in *Geotechnical Fundamentals for Addressing New World Challenges*, Springer.

Reports

1. Mayne, P.W., Christopher, B.R., and DeJong, J.T. *Manual on Subsurface Investigations* FHWA Publication No. FHWA-NHI-01-031, 394 pp, 2002.
2. Westgate, Z.J. and DeJong, J.T. *Geotechnical Considerations for Offshore Wind Turbines* Report for MTC OTC Project, 130 pp., 2005.
3. DeJong, J., Mortensen, B., and Martinez, B. *Bio-Soils Interdisciplinary Science and Engineering Initiative*, NSF Final Report for Grant #CMS-0628782, 85 pp., <http://www.sil.ucdavis.edu/biosoil-outcomes.htm>, 2008.
4. DeJong, J.T., Mortensen, B., and Martinez, B. *Bio-Soils Interdisciplinary Science and Engineering Initiative*, NSF Final Report on Workshop, 2007, 84 pp.
5. DeJong, J.T. and Wair, B. *Site Characterization – Guidelines for Estimating V_s Based on In-Situ Tests*, PEER Lifelines Report, 2009, 25 pp.
6. DeJong, J.T., Thurairajah, A., Wilson, D., and Ghafghazi, M. *Reusable Instrumented Test Pile for Improved Pile Design in Granular Soils*, Caltrans Report CA13-1233, March 2013, 254 pp.
7. DeJong, J.T. *Reusable Instrumented Test Pile – Phase 2*, Caltrans Report CA18-2343, April 2018, 252 pp.
8. Hernandez, G.L., Darby, K.M., DeJong, J.T., and Boulanger, R.W. *Centrifuge Model Testing of Liquefaction Mitigation of Sands via Microbially Induced Calcite Precipitation - Centrifuge Data Report for GLH01s, GLH02s, GLH07s, GLH08s, GLH09s, GLH10s, GLH11s, & GLH12s*. Center for Geotechnical Modeling Data Report, 2018, Report No. CGMDR-18/03.

Patents

1. Frost, J.D. and DeJong, J.T. “Multi-Sleeve Cone Penetrometer Attachment” U.S. Patent No. 6701771 (awarded March 9, 2004).
2. Frost, J.D., Hebel, G.L., and DeJong, J.T. “Apparatus and Method for Determining In Situ Pore Fluid and Soil Properties Using Multi-Sensor Measurement Systems”, U.S. Patent No. 7,201,060 B2 (awarded April 10, 2007).

Presentations & Conference Activities

Invited Presentations

- “Improving CPT Based Pile Design Methods Through the Direct In-Situ Measurement of Interface Strength”, *American Society of Civil Engineers, Deep Foundations Short Course*, Atlanta, GA, January 22, 2000.
- “Investigation and Assessment of Interface Mechanisms in Geotechnical Engineering”, *GeoDelft*, Delft, Netherlands, June, 16, 2000.
- “Investigation of Particulate-Continuum Interface Mechanisms and Their Assessment Through a Multi-Friction Sleeve Penetrometer Attachment”, Presented at: *University of Texas, Austin* (May 8, 2001), *University of Massachusetts, Amherst* (April 26, 2001), *Stanford University*, (March 8, 2001), *Montana State University* (February, 2001), *Ohio University*, (January 24, 2001).
- “Laboratory and Field Investigations of Factors Affecting Interface Strength”, Center for Offshore Foundation Systems, *University of Western Australia*, Perth, Australia, September 7, 2001.
- “A New Multi-Friction Sleeve Penetrometer”, *University of Christchurch*, Christchurch, New Zealand, December 3, 2001.
- “Interface Load Transfer Degradation During Cyclic Loading”, *Northeastern University*, March 28, 2003.
- “Interface Load Transfer Degradation During Cyclic Loading”, *Massachusetts Institute of Technology*, April 8, 2003.
- “In Situ Detection of Stratigraphic Variations Using a Miniature Piezoprobe”, *University of California Davis*, January 5, 2004.
- “Multi-Scale Characterization and Analysis of Soil-Structure Interfaces”, *University of California Davis*, April 4, 2005.
- “Multi-Scale Characterization and Analysis of Soil-Structure Interfaces”, *University of California Berkeley*, November 14, 2006.
- “Bio-Soils Interdisciplinary Science and Engineering Initiative”, *National Science Foundation*, August 22, 2007.
- “UC Davis Bio-Mediated Cementation of Sands and the US-UK Bio-Soils Initiative”, *Transportation Research Board*, Washington, D.C., January, 15, 2008.
- “The Use of Full-Flow Penetrometers in Soft Clay”, *Norwegian Geotechnical Institute*, Oslo, Norway, June 19, 2008.
- “Recommended Testing and Interpretation of Full-Flow Penetrometer Testing”, *Fugro Inc*, Offshore Engineering Division, Leidschendam, Netherlands, June 20, 2008.
- “Bio-Mediated Soil Improvement”, Opening Keynote Presentation at the *1st International Bio-Geo-Civil Engineering Conference*, Delft, Netherlands, June 23, 2008.
- “Recommended Testing and Interpretation of Full-Flow Penetrometer Testing”, *Deltares*, Delft, Netherlands, June 25, 2008.
- “General Report – In-situ Testing” *17th International Conference on Soil Mechanics and Foundation Engineering*, October 7, 2009.
- “Effects of Sample Disturbance and Consolidation Procedures on the Behaviour of Intermediate Soils”, *Center for Offshore Foundation Systems, University of Western Australia*, May 28, 2010.
- “Bio-Mediated Ground Improvement – Part of the Future?”, *Deep Foundations Institute, Ground Improvement Workshop*, Los Angeles, CA, October 12, 2010.
- “The Use of Full Flow Penetrometers in Soft Clay”, *ConeTec*, Vancouver, Canada, January 27, 2011.

- “Seismic and Resistivity Measurements for Real-Time Monitoring of Bio-Mediated Soil Improvement”, *American Geophysical Union*, Session Keynote Presentation, San Francisco, CA, December 6, 2011.
- “Life Cycle Assessment of Ground Improvement Methods: Implementation & Challenges”, NRC Committee on Geological and Geotechnical Engineering Meeting, Washington, D.C., December 15, 2011.
- “Variable Penetration Rate Cone Testing for Characterization of Intermediate Soils”, *4th International Site Characterization Conference*, Keynote Presentation, Recife, Brazil, September 19, 2012.
- “Variable Penetration Rate Cone Testing: A Numerical & Experimental Investigation”, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, May 2, 2013.
- “Characterization of Intermediate Soils: Laboratory vs. In-situ Characterization”, University of Cambridge, Cambridge, UK, May 30, 2013.
- “Biological Improvement of Sand for Liquefaction Prevention & Mitigation”, Geotechnique Symposium in Print @ Institute of Civil Engineer Headquarters, London, UK, June 3, 2013.
- “Bio-Geo-Chemical Processes for Improvement of Soil Engineering Properties”, *Couple Phenomena in Environmental Geotechnics*, Turin, Italy, July 2, 2013.
- “Characterization of Intermediate Soils “Should I Trust Laboratory or In-situ Measurements?””, GEI Consultants, Rancho Cordova, CA, November 22, 2013.
- “Geophysical Measurements for Real-time Monitoring of Biogeochemical Processes for Improvement of Soil Engineering Properties and Subsurface Environmental Conditions”, *American Geophysical Union*, San Francisco, CA, December 12, 2013.
- “iBPT Analysis at Headworks West Reservoir”, *LADWP*, Los Angeles, CA, February 13-14, 2014.
- “Instrumented Becker Penetration Test (iBPT) for Improved Characterization of Gravelly Deposits”, *NC State*, Raleigh, N.C., February 27, 2014.
- “A new instrumented Becker Penetration Test (iBPT) for Improved Characterization of Gravelly Deposits”, *USBR*, Denver, CO, March 31, 2014.
- “New instrumented Becker Penetration Test (iBPT) for Improved Characterization of Gravelly Deposits Within and Underlying Dams”, *ASDSO Conference*, San Diego, CA, September 22, 2014.
- “Instrumented Becker Penetration Test for Liquefaction Assessment of Gravelly Soils”, *USACE – Sacramento Section*, Sacramento, CA, December 4, 2014.
- “Instrumented Becker Penetration Test for Liquefaction Assessment of Gravelly Soils”, *IACGE 18th Geotechnical Workshop*, Los Angeles, CA, February 20, 2015.
- “Liquefaction Characterization of Gravelly Soils”, *CalGeo Conference*, Carmel, CA, April 24, 2015.
- “Characterization of Gravelly Alluvium”, *6th ICEGE*, Christchurch, NZ, November 2, 2015.
- “Characterization of Gravelly Soils for Geotechnical Engineering Applications”, Cavendish Laboratory, Cambridge University, April 21, 2016.
- “Sustainable Biogeotechnics: The Emergence of Bio-inspired and Bio-mediated Geotechnical Innovation”, Geotechnical Engineering Group, Cambridge University, April 27, 2016.
- “Integrated Approach to Characterization of Gravelly Alluvium”, BP Institute, Cambridge University, April 28, 2016.

- “Bio-mediated Soil Improvement”, Geotechnical Engineering Group, University of Dundee, May 10, 2016.
- “Considerations in the Development of CPT Based Empirical Correlations”, Offshore Engineering Group, Fugro Engineers B.V., Nootdorp, Netherlands, July 6, 2016.
- “Transforming Sand to Sandstone: Increasing the Reliability of Civil Infrastructure”, *Sand – An (In)finite Resource*, Course by ETH Zurich & TU Delft, Delft, Netherlands, July 7, 2016.
- “Advances in the Characterization of Gravelly Soil Deposits” [keynote presentation], *ASCE GeoVirginia Conference*, Williamsburg, Virginia, October 20, 2016.
- “Sustainable Biogeotechnics: Moving from Research to Practice”, 48th Kansas Geotechnical Conference, Kansas City, Kansas, November 11, 2016.
- “Opportunities and Strategies for Obtain NSF Research Funding”, *Geotechnical Frontiers 2017*, Orlando, Florida, March 14, 2017.
- “Building a Strong Research Network”, *Sr. Geotechnical Faculty Panel and Breakfast: Building a Purposeful Community*, *NSF Geotechnical Women Faculty – Networked and Thriving* workshop, May 12, 2017.
- “Sustainable Biogeotechnics: Developing Bio-mediated and Bio-inspired Solutions for Hazard Mitigation”, University of California, San Diego, May 1, 2018.
- “Development of an Innovative Research Program”, *2nd USUCGER Career Development Workshop for Junior Faculty*, Cleveland, Ohio, May 21, 2018.
- “Centrifuge model testing of liquefaction mitigation via microbially induced calcite precipitation” [keynote presentation], *B2G Conference*, Atlanta, GA, September 12, 2018.
- “Introduction to the Center for Bio-mediated and Bio-inspired Geotechnics”, Caltrans, Sacramento, CA, December 6, 2018.
- “Geo-Technology Innovation: The Drivers of Sustainability and Bio-inspired Design” [keynote TED-style presentation], *ASCE GeoCongress 2019*, Philadelphia, Pennsylvania, March 27, 2019.
- Expert Panel w/ Presentation on Site Evaluation & Recommendations, *CalGeo 2019 Conference*, San Diego, California, April 10-12, 2019.
- “The Behavior and Characterization of Coarse-Grained Gravelly Soils” [keynote presentation], *2019 Chicago Geotechnical Lecture Series*, Oak Brook, Illinois, May 20, 2019.
- “Bio-cementation for Mitigation of Earthquake-induced Soil Liquefaction”, Golder Associates, Vancouver, B.C., May 30, 2019.
- “The Use of Cone Penetration Testing for Integrated Site Characterization” [keynote presentation], *26th Vancouver Geotechnical Society Symposium*, Vancouver, Canada, May 31, 2019.
- “The Behavior and Characterization of Coarse-Grained Gravelly Soils”, *2019 Chicago Geotechnical Lecture Series, Case Studies and Lessons in Geotechnical Engineering*, Chicago, Illinois, May 10, 2019, Keynote Presentation.
- “Biogeotechnics: Bio-mediated Processes and Bio-Inspired Ideas for Geotechnical Engineering Innovation”, *The National Academies of Sciences, Engineering, and Medicine’s Committee on Geological and Geotechnical Engineering, Webinar Series*, Thursday February 20, 2020, Keynote Presentation.
- “Biogeotechnics – State of the Art”, *Advancements in Geotechnical Engineering: From Research to Practice (international online forum)*, October 3, 2020, Keynote Presentation.

- “MICP Optimization for Field-Scale Implementation.” *First International Conference on Microbial Biotechnology in Construction Materials and Geotechnical Engineering*, Nanjing, China (& Online), November 6, 2020, Keynote Presentation.
- “The Effects of Soil Gradation on the Dynamic Response of Sloping Ground”, *USSD Earthquake Committee Seminar*, January 26, 2021.
- “The Effects of Soil Gradation on the Dynamic Response of Embankments”, *CA DSOD Internal Webinar*, September 8, 2021.
- “A System-Level Study to Evaluate the Role of Soil Gradation on Seismically Induced Embankment Deformations”, *PEER Researcher’s Workshop*, August 16, 2021.
- “Optimization of CPT Soundings to Reduce Uncertainty in Interpretation of Subsurface Stratigraphy.” *Proc. 6th Int. Conf. on Site Characterization*, Budapest, Hungary, September 27, 2021, Keynote Presentation.
- “Emerging Opportunities in Biogeotechnics”, *ASCE Mohawk-Hudson Section, 13th Annual Capital Region, Geotechnical Symposium*, November 12, 2021, Keynote Presentation.
- “The Effects of Soil Gradation on the Dynamic Response of Embankments”, *UC Berkeley Seminar Series*, December 1, 2021.
- “State of the Art: MICP soil improvement and its application to liquefaction hazard mitigation”, *20th ICSMGE*, Sydney, Australia, May 4, 2022, Keynote Presentation.
- “Well-Graded Gravelly Soils: Expected Performance, Analysis Framework, & Characterization Methods”, *Geosyntec Technical Webinar*, May 18, 2022.
- “CPT for Static and Cyclic Liquefaction: Challenges & Opportunities”, *CPT’22 Conference*, Bologna, Italy, June, 20, 2022, Invited Plenary Talk.

Meeting Presentations

[Presentations for NSF Engineering Research Center for Bio-mediated and Bio-inspired Geotechnics at internal program and industry meetings is about 4x per year since 2013. These presentations are not listed below.]

- “Opportunities for Improving CPT Based Pile Design Methods”, *Transportation Research Board, Annual Meeting 1999*, Washington, D.C., January 13, 1999.
- “Improved Measurements of Side Friction Using Textured CPT Friction Sleeves”, *American Society of Civil Engineers, Geo-Institute, GeoDenver2000*, Denver, Colorado, August, 5, 2000.
- “The ‘S-Shaped’ Response of Soil Under Cyclic Shearing: a Micro-Mechanical Investigation”, *Center for Offshore Foundation Systems Workshop, University of Western Australia*, Perth, Australia, November 13, 2001.
- “Physical Evidence of Shear Banding at Granular-Continuum Interfaces”, *American Society of Civil Engineers, Engineering Mechanics Conference 2002 Conference*, New York, New York, June 4, 2002.
- “Detection of Soil Layering in Varved Clay using a Miniature Piezoprobe”, *Soil Rock America 2003 Conference*, Boston, MA, June 23, 2003.
- “Effect of Cementation on Cyclic Soil-Structure Interface Behavior”, *American Society of Civil Engineers, Engineering Mechanics Conference 2003 Conference*, Seattle, WA, July 18, 2003.
- “Evaluation of the Undrained Shear Strength Profile in Soft Layered Clay Using Full-Flow Probes”, *2nd International Site Characterization Conference*, Porto, Portugal, September 21, 2004.

- “Role of Initial Specimen State and Particle Properties to the Breakage Potential of Granular Soils”, *Geo-Quebec Conference*, Quebec City, Canada, October 25, 2004.
- “Pore Pressure Characterization of Geotechnical Site Using Multi-Level Vibrating Wire Piezometers”, *Geo-Quebec Conference*, Quebec City, Canada, October 27, 2004.
- “Interface Critical State Measurements from Microscale PIV Analysis”, *NSF-EPSRC Workshop on Micro-Geomechanics Across Multiple Strain Scales*, Cambridge, UK, March 21, 2005.
- “Considerations in Determining the Remoulded Undrained Shear Strength from Full Flow Penetrometer Cycling”, *International Symposium on Frontiers in Offshore Geotechnics*, Perth, Australia, September 21, 2005.
- “Biologically Induced Improvement of Loose Sand”, *8th National Conference on Earthquake Engineering*, San Francisco, CA, April 21, 2006.
- “The influence of full-flow penetrometer area ratio on undrained strength measurements”, *6th International Conference on Offshore Site Investigation and Geotechnics*, Society for Underwater Technology (SUT), September, 13, 2007.
- “Bio-Mediated Ground Improvement”, *Transportation Research Board*, Washington, D.C., January, 15, 2008.
- “Bio-Mediated Calcite Precipitation”, *ASCE Geo-Congress*, New Orleans, March 10, 2008.
- “Linking Micro-Scale Behavior with Measured Global Interface Response”, *Research Symposium on the Characterization and Behavior of Interfaces*, September 21, 2008.
- “Real-Time Geophysical Monitoring of Bio-Mediated Soil Improvement”, *AGU Chapman Conference on Bio-Geophysics*, October 13-16, 2008.
- “Bio-Mediated Soil Improvement: Load Transfer Mechanisms at the Micro- and Macro- Scales” *U.S.-China Workshop on Ground Improvement Technologies*, March 14, 2009.
- “Upscaling of bio-mediated soil improvement”, *17th International Conference on Soil Mechanics and Foundation Engineering*, October 8, 2009.
- “Engaging Students with Diverse Learning Styles in Large Geotechnical Engineering Classes”, *ASCE Geo-Institute Annual Conference: Geo-Frontiers 2011*, March 14, 2011.
- “Biological Improvement of Sand for Liquefaction Prevention and Damage Mitigation”, *NSF NEESR Annual Conference*, Boston, MA, July 11, 2012.
- “2nd International Workshop on Bio-Soil Interactions and Engineering”, *NSF CMMI Annual Conference*, Boston, MA, July 10, 2012.
- “Improved Characterization of Gravelly Soils Using an Instrumented Becker Penetration Test”, *PEER Annual Meeting*, Oakland, CA, October 26, 2012.
- “Bacteria, Bio-films, and Invertebrates...the Next Generation of Geotechnical Engineers?”, *GeoCongress 2014*, Atlanta, GA, February 24, 2014.
- “New instrumented Becker Penetration Test (iBPT) for Improved Characterization of Gravelly Deposits Within and Underlying Dams”, *ASDSO Conference*, San Diego, CA, September 22, 2014.
- “A Bio-Inspired Perspective for Geotechnical Engineering Innovation”, *Geotechnical Frontiers 2017*, Orlando, Florida, March 13, 2017.
- “An acid dissolution method for preparation of contractive fine-grained soil specimens”, *IS Atlanta*, September 11, 2018.
- “A Review of Legal Claims and Recommended Risk Management Practices for Site Characterization in Geotechnical Engineering.” *ASCE GeoCongress 2020*, Minneapolis, Minnesota, February 27, 2020.
- “Life Cycle Assessment of Site Characterization Methods.” *ASCE GeoCongress 2020*, Minneapolis, Minnesota, February 27, 2020.

- “Evaluation of Soil Disturbance due to Sonic Drilling using Instrumentation and Cone Penetration Test Measurements”, *GeoNiagara*, Toronto, Canada, September 27, 2021.
- “MICP Treatment of Carbonate Rich Blessington Sand – Results & Ongoing Work”, *NSF CBBG – iCRAG – Queen’s University Belfast Project Meeting*, Dublin, Ireland, June 28, 2022.

Convocation Speaker

- “The Story We Find Ourselves In”, *University of Massachusetts Amherst, College of Engineering Graduation Faculty Speech*, May 21, 2006.

Short Courses & Workshops

- “Soil Engineering In-vivo: Harnessing Natural Biogeochemical Systems for Sustainable Multi-Functional Solutions”, *Master Class, Institute for Advanced Studies, University of Western Australia*, April 22, 2010.
- “Geotechnical Site Characterization: Integrated In Situ Testing, Drilling & Sampling, & Laboratory Testing”, *GeoCongress 2013*, March 3, 2013.
- “Geotechnical Site Characterization: Integrated In Situ Testing, Drilling & Sampling, & Laboratory Testing”, *GeoCongress 2014*, March 23, 2014.
- “Soil Liquefaction During Earthquakes – Recent Developments”, *UC Davis*, October 24, 2014.
- “Site Characterization of Soft Sediments”, *ConeTec, Inc., Vancouver, Canada*, November 13, 2014.
- “Gravel Characterization Workshop”, *UC Davis*, April 1, 2015.
- “Soil Liquefaction During Earthquakes – Recent Developments”, *Seattle, Washington*, May 1, 2015.
- “Integrated Site Characterization”, *UC Davis*, October 23, 2015.
- “Integrated Subsurface Characterization and Selection of Design Parameters”, *ConeTec Inc., Vancouver, B.C., Canada*, January 6, 2017.
- “Developing Biogeotechnical Solutions for Hazard Mitigation”, *GeoHazards Workshop, Berkeley, California*, March 21, 2017.
- “Integrated Subsurface Characterization with In-situ Testing for Geotechnical Analysis and Design”, *ASCE Kansas City Section, Kansas City, MO*, January 19, 2018.
- “Integrated Subsurface Characterization for Selection of Design Parameters”, *CalGeo Conference, Santa Rosa, CA*, April 19, 2018.
- “Impact Testing for Site Characterization Workshop”, *DFI SuperPile Conference*, May 1, 2019.
- “CGS-SOS Workshop: Field Investigation and Laboratory Testing”, *Southern Ontario Section, Canada*, April 20-21, 2022.
- “Geotechnical Site Characterization”, *ASCE Orange County Section, Irvine, CA*, July 14, 2022.

Conference Session Moderator / Organizer

- DeJong, J.T. and Simmonds, T. (2004) “Instrumentation at Extreme Temperatures: New Developments and Case Histories”, *Transportation Research Board Meetings, Committee A2K01*.
- DeJong, J.T. (2005) “Field Methods for Detection of Stratigraphic Interfaces and Thin Layers”, *ASCE Geo-Frontiers*, Austin, Texas.
- DeJong, J.T. and McDowell, G. (2005) “Session II: MicroGeomechanics from the Millistrain Perspective”, *NSF-EPSRC Workshop on Micro-Geomechanics Across Multiple Strain Scales*, Cambridge, UK, March 21, 2005.
- DeJong, J.T. (2006) “Session on Dynamic Soil Properties”, *8th National Conference on Earthquake Engineering*, San Francisco, CA, April 19, 2006.

- DeJong, J.T. and Frost, J.D. (2006) “Role of Information Technology in Learning and Education”, *Geotechnical Engineering in the Information Technology Age, GeoCongress Atlanta*, February 26 – March 1, 2006.
- DeJong, J.T. (2008) “Emerging Opportunities in Harnessing Bio-Mediated Processes for Geotechnical Applications”, *ASCE Geo-Congress*, New Orleans, Louisiana, March 10, 2008.
- DeJong, J.T. and Soga, K. (2011) “Bio-Mediated Soil Improvement” (series of three sessions), *ASCE Geo-Congress*, Dallas, Texas, March 15, 2011.
- DeJong, J.T. (2014) “Characterization of Intermediate Soils Using Laboratory, Insitu, and Numerical Techniques, *ASCE Geo-Congress*, Atlanta, Georgia, March 24, 2014.
- DeJong, J.T. and Armstrong, R. (2014) “Characterization of Gravelly Soils Using Laboratory, Insitu, and Numerical Techniques, *ASCE Geo-Congress*, Atlanta, Georgia, March 24, 2014.
- DeJong, J.T., Soga, K., and Zekkos, D., (2018) “Bio-Based Soil Improvement”, *IFCEE 2018 Conference*, Orlando, FL, March 5-10, 2018.
- DeJong, J.T., Ziotopoulou, K., and Carey, T., (2021) “Recent developments in the performance-based evaluation of liquefaction effects on infrastructure”, *EERI Annual Meeting*, On-line, March 24, 2021.
- DeJong, J.T. and Kelly, R., (2022) “TC102 Committee In-Person Session”, *20th ICSMGE Conference*, Sydney, Australia, May 5, 2022.
- DeJong, J.T., (2022) “CPT for liquefaction assessment”, *CPT’22 Conference*, Bologna, Italy, June 10, 2022.

Conference/Workshop Organizer

- Organizing Committee - Technical Co-Chair, Program Co-Chair, Short Course, Workshop and Debate Chair, (2006) *Geotechnical Engineering in the Information Technology Age, GeoCongress Atlanta 2006*, February 26 – March 1, 2006.
- Organizer (2007) – *International Workshop on Bio-Soil Interactions and Engineering*, NSF/EPSRC Joint Workshop (Kenichi Soga was UK Organizer), Boston, MA, April 1-4, 2007.
- Scientific Committee (2008) *First International Conference on Bio-Geo-Civil Engineering*, Delft, Netherlands, June 23-25, 2008.
- International Advisory Committee Member (2010) *2nd International Symposium on Frontiers in Offshore Geotechnics*, November 8-10, 2010.
- Local Organizing Committee Member (2010) *2nd International Symposium on Cone Penetration Testing*, May 9-11, 2010.
- Organizer (2011) – *2nd International Workshop on Bio-Soil Interactions and Engineering*, NSF Workshop (Kenichi Soga is UK co-organizer), Cambridge, England, September 16-18, 2011.
- Organizer (w/ A. Martinez) – *1st International Workshop on Bio-inspired Geotechnics*, NSF Funded, Asilomar, California, May 19-22, 2019
- Scientific Committee co-chair (2020) *First International Conference on Microbial Biotechnology in Construction Materials and Geotechnical Engineering*, Nanjing, China (& On-online), November 6-7, 2020.
- International Advisory Board Member (2022) *CPT’22 Conference*, Bologna, Italy, June 8-10, 2022.

Research Related Experience

Grants (* denotes currently active)

National/International Grants

- *[Pending] Boulanger, R.W., DeJong, J.T., Martinez, A., Wilson, D.W., and Ziotopoulou, K. “MSRI-2: Next Generation Centrifuge Facility for Hyper-Gravity Experiments and Model Tests”, National Science Foundation, \$95,618,528, 2/1/23-1/31/28.
- *Boulanger, R.W., Wilson, D., DeJong, J.T., and Kutter, B., “Natural Hazards Engineering Research Infrastructure: Experimental Facility with Geotechnical Centrifuges”, National Science Foundation, \$8,709,154, 1/1/21-9/30/25.
- *DeJong, J.T. (PI) w/ internal USBR team, “Instrumented Standard Penetration Testing (ISPT) to increase accuracy and reliability in penetration and delivered energy data for geotechnical analysis and liquefaction evaluation”, US Bureau of Reclamation, \$133,000, 9/1/2021-8/31/2024.
- *DeJong, J.T. (PI), Martinez, A., and Ziotopoulou, K., “In Situ Characterization and Dynamic Response of Well-Graded Coarse-Grained Soils”, National Science Foundation, \$695,745, 7/1/2019-6/30/2022.
- *DeJong, J.T. (PI @ UC Davis) “Engineering Research Center for Bio-Mediated and Bio-Inspired Geotechnics” (Grant PI: Ed Kavazanjian @ ASU), National Science Foundation – ERC, \$~8M UCD portion, 08/15-07/25.
- Bronner, C. and DeJong, J.T. (Co-PI) “REU Site: Bio-mediated & Bio-inspired Geotechnics”, National Science Foundation, \$684,435, 3/1/18-2/28/22.
- Boulanger, R.W. and DeJong, J.T. (Co-PI) “Liquefaction evaluations of finely interlayered sands, silts, and clays”, National Science Foundation, \$319,356, 10/1/16-9/31/20.
- Martinez, A. and DeJong, J.T. (Co-PI) “1st International Workshop on Bio-Inspired Geotechnics”, National Science Foundation, \$87,714, 1/1/18-6/30/19.
- DeJong, J.T. (PI), and Boulanger, R.W. (collaborative proposal w/ Don DeGroot & Guoping Zhang @ UMass Amherst) “Sampling and Sample Quality Assessment of Intermediate Soils”, National Science Foundation – CMMI, \$310,000, 08/14-07/19.
- DeJong, J.T. (PI) “RAPID: Biostimulation for Biocementation at Field Scale Treatment Depths”, National Science Foundation – CMMI, \$42,754, 04/15-3/16.
- Ginn, T.R. and DeJong, J.T. (Co-PI) “A Practical Upscaling of Subsurface Reactive Transport”, National Science Foundation – EAR, \$570,679, 07/14-06/17.
- Boulanger, R.W. and DeJong, J.T. (Co-PI) “CPT-based Characterization of Intermediate Soils”, National Science Foundation – CMMI, \$556,213, 09/13-08/16.
- DeJong, J.T. (PI), Nelson, D., and Ginn, T. “Bio-cementation Field Scale Trials: Addressing the Challenges of Treatment Uniformity & Verification, Biostimulation, & By-product Management”, National Science Foundation – CMMI, \$596,646, 08/12-07/15.
- DeJong, J.T. (PI) “Liquefaction Potential Evaluation of Sands with Fines using Variable Penetration Rate Cone Testing”, United States Geological Survey, \$96,354, 01/12-12/13.
- DeJong J.T. (PI) (co-organizer was Kenichi Soga @ Cambridge University), “2nd International Workshop on Bio-Soil Interactions and Engineering”, National Science Foundation – CMS, \$60,316, 02/11-01/13.

- DeJong, J.T. (PI), Boulanger, R.W., and Nelson, D. “NEESR-II Biological Improvement of Sands for Liquefaction Potential and Damage Mitigation”, National Science Foundation, \$375,000, 08/01/08-08/31/12.
- DeJong, J.T. (PI) and Nelson, D. “Bio-mediated Improvement of Soil and Soil-Structure Interface Behavior, National Science Foundation”, National Science Foundation, CMMI, \$324,007, 09/07-08/12.
- DeGroot, D.J. (PI), and DeJong, J.T. (co-PI), et. al (Co-PIs @ UC Davis, , Tufts University, Northeastern University, Vassar College) “Developing International Protocols for Offshore Sediments and their Role in Geohazards: Characterization, Assessment, and Mitigation”, National Science Foundation, 12/05-11/11, \$2,396,579 (UCD subaward = \$362,833).
- DeJong J.T. (PI) (co-PIs @ Cambridge University, University of Massachusetts Amherst), “International Workshop on Bio-Soil Interactions and Engineering”, National Science Foundation – CMS, \$66,570, 05/06-04/07.
- DeJong, J.T. “Applicability of “Full-Flow” Penetration Probes for Characterizing Soft Soil Deposits”, National Science Foundation, 08/03-07/05, \$147,454.
- DeJong, J.T. “Research Experience for Undergraduates: Applicability of “Full-Flow” Penetration Probes for Characterizing Soft Soil Deposits”, National Science Foundation, 06/03-05/04, \$6,000.
- DeJong, J.T. “Improved Design of Deep Foundations in Cemented Soils through Investigation of the Soil-Structure Interface”, National Science Foundation, International Research Program, 08/01-07/05, \$39,175.
- DeJong, J.T. “Direct Measurement of Normal Stress in Granular Materials”, Sigma Xi Grants-in-Aid of Research, 1999-2000, \$660.

State Grants

- DeJong, J.T. “Characterization of Liquefiable Gravelly Soils using the Instrumented Becker Penetration Test”, California Division of Safety of Dams, \$315,143, 6/1/16-5/31/18.
- DeJong, J.T. “Removable Test Pile (RTP) for Improved Pile Design – Phase II”, Caltrans, \$374,891, 12/1/12-11/31/15.
- DeJong, J.T. “In-situ Characterization of Gravelly Soils”, California Division of Safety of Dams, \$396,800, 6/1/12-12/31/16.
- DeJong, J.T. and Nelson, D. “Bio-Mediated Stabilization of Civil Infrastructure”, UC Discovery Program (w/ Geosyntec Consultants), \$132,838, 05/01/08-04/31/12.
- DeJong, J.T. “Removable Test Pile for Improved Pile Design”, Caltrans, \$399,472, 7/1/08-4/31/12.
- DeJong, J.T. “In-Situ Identification and Characterization of Intermediate Soils”, Pacific Earthquake Engineering Research Lifelines Program, \$75,000, 3/1/08 – 2/28/11.
- DeJong, J.T. “Site Characterization – Guidelines for Vs Values Based on In-Situ and Laboratory Tests”, Pacific Earthquake Engineering Research Lifelines Program, \$15,577, 1/1/08 – 8/31/08.
- Manwell, J. (PI), and DeJong, J.T. (co-PI) et. al., “HMLP Offshore Wind Turbine Project and Best Practices for Site Selection, Design, and Installation of Offshore Wind Turbines”, Massachusetts Technology Consortium, \$1,697,730, 06/06-05/07.

Manwell, J., McGowan, J.G., Rogers, A.L., and DeJong, J.T. “MTC-UMass Offshore Wind Energy Work Order Agreement 05-3 (pilot year funding)”, MTC Offshore Wind Energy Consortium, 09/04-08/05, \$199,998.

Civjan, S.A., Brena, S., and DeJong, J.T. “Behavior of Integral Abutment Bridges: Field Data and Computer Modeling”, Massachusetts Highway Department, 01/03-12/03, \$126,221.

University Grants

DeJong, J.T. “Optimization of Geotechnical Interface Performance”, UMass FRG, 01/03-12/03, \$14,991.

DeJong, J.T. and Westgate, Z. “Interface Behavior of Overconsolidated Granular Soil on Smooth HDPE Geomembranes”, Engineering Alumni Association Project Grant, 2003-2004, \$500.

Industry Collaboration Grants

DeJong, J.T. “iBPT Investigation at Priest Rapids and Wanapum Dams, WA”, MWH Americas, 7/16-10/16, \$74,059.

DeJong, J.T. “iBPT Investigation of Second Narrows Bridge Alignment”, Golder Assoc. 12/15-3/16, \$56,662.

DeJong, J.T. “iBPT Investigation of Bouquet Canyon Dam”, GeoPentech, Inc., 6/14-10/15, \$97,619.

DeJong, J.T. “iBPT Investigation of Stone Canyon Dam”, URS, 7/14-12/15, \$106,482.

DeJong, J.T. “iBPT Characterization of Gravelly Deposits at the Haiwee North Reservoir”, URS, 11/13-07/14, \$116,786.

DeJong, J.T. “iBPT Characterization of Gravelly Deposits at the Headworks West Reservoir”, AMEC, 06/13-11/13, \$59,863.

DeJong, J.T. “Advanced Characterization of an Intermediate Soil Subject to Monotonic and Cyclic Loading”, ENGEO, 06/07-12/07, \$46,000.

DeJong, J.T. “Evaluation of Rate Effects on the Strength of Old Bay Mud”, Earth Mechanics Inc., 5/07-12/07, \$37,500.

DeJong, J.T. “Evaluation of Multi-Level Piezometer Performance Relative to Conventional Piezometer Installations”, Geokon, Inc., 12/04-12/05, \$12,000 funds & \$10,030 in-kind.

DeJong, J.T. “Collaborative Industry Research – Investigation of Performance of In Situ Long Term Instrumentation and Monitoring”, Geokon, Inc., 2003-present, \$11,000 in-kind.

Research Collaborators (partial list from last 5 years)

Bandini, Paola (NMSU), Boulanger, Ross (UCD), Bronner, Colleen (UCD), Caslake, Laurie (Lafayette College), Conduto, Don (Terra Insurance), Cox, Brady (UT), Darby, Kathleen (Geosyntec), DeGroot, Don (UMass), Frost, David (GT), Ghafghazi, Mason (UToronto), Gomez, Michael (University of Washington), Hernandez, Gabby (CA DSDO), Kavazanjian, Ed (ASU), Kendall, Alissa (UCD), Khosravi, Mohammed (Montana St), Krage, Chris (GEI), Krajalnik-Brown, Rosa (ASU), Kutter, Bruce (UCD), Lukas, Will (GEI), Martinez, Alejandro (UCD), Montgomery, Jack (Auburn), Montoya, Brina (NC State), Moug, Diane (Portland State), Nelson, Doug (UCD), Olivera, Roberto (Golder), Parales, Becky (UCD), Price, Adam (Fugro), Purdy, Chris (USACE), Raymond, Alena (Geosyntec), Roth, Mary (Lafayette College), Schnaid, Fernando (Universidade Federal do Rio Grande do Sul, Brazil), Soga, Kenichi (UC Berkeley), Sharp, Jamie (ConeTec), Sturm, Alex (CA DSOD), Thurairajah, Arivinthan (Golder), Tsesarsky, Michael (Ben Gurion University, Israel), van Paassen, Leon (ASU), Viggiani, Cino (Univ. Grenoble), Wang, Yuze (Cambridge Univ.), Wilson, Dan (UCD), Zhang, Guoping (UMass Amherst), Ziotopoulou, Katerina (UCD)

Student Supervision

Post-Doctoral Advisor

- Mason Ghafghazi (2012-2015) – “In situ Characterization of Gravels”
Atafeh Zamani (2018-2020) – “Biomediated Geotechnics: Calcite Precipitation & Bio-film Formation”
Trevor Carey (2019-2021) – “System Response of Geotechnical Structures Comprised of Gravelly Soils”

Graduate Advisor and Committee Chair

- Bennett Hasseldeck (2022-present): M.S.C.E.: “Performance of Non-Vibratory Stone Columns”
Laura Luna (2021-present): Ph.D.: “Upscale Modeling of MICP”
Dora DeMelo (2021-present): Ph.D.: “Geotechnical Sustainability Metrics”
Nathan Love (2020-present): M.S.C.E.: “Effect of Soil Gradation on Embankment Response”
Jakob Strasilla (2020-present): M.S.C.E.: “Energy Loss in Deep SPT Borings”
Alexandra Camil San Pablo (2018-present) – Ph.D.: “Upscaling MICP to Field Applications”
Matthew Burrall (2020-present) – M.S.C.E./Ph.D.: “Root-Inspired Reinforcement Systems”
K.C. Green (2019-2021): M.S.C.E.: “Effect of Sonic Drilling on CPT Measurements”
Casey Phradichith (2018-2020) – M.S.C.E.: “Improving Biofilm Treatment Uniformity in Sands”
Brian Sawyer (2018-2020) – M.S.C.E.: “Penetrometer-to-Particle Size Effects in Cone Penetration”
Chris Purdy (2018-2020) – M.S.C.E.: “LCA Analysis of MICP”
Alena Raymond (2017-2020) – Ph.D.: “LCSA Framework for Evaluation of Bio-mediated and Bio-inspired Technologies”
Alex Sturm (2017-2020) – Ph.D.: “Effect of Soil Gradation on Penetration Resistance and Dynamic Response”
Matthew Burrall (2015-2020) – M.S.C.E.: “Root-Inspired Reinforcement Systems”
Kevin Kuei (2015-2020) – Ph.D.: “DEM Modeling of the Effect of Soil Gradation on Monotonic and Cyclic Behavior”
Gabby Hernandez (2016-2018) – M.S.C.E.: “Centrifuge Model Testing of Liquefaction Mitigation of Sands via Microbially Induced Calcite Precipitation”
Jordan Greer (2016-2018) – M.S.C.E.: “Biofilm Enabled Permeability Reduction in Sands”
Greg Shepard (2016-2018) – M.S.C.E.: “Characterization of Coarse Grained Soil Mixes for Investigation of Penetrometer to Particle Size Effects Using Centrifuge Modeling”
Alena Raymond (2015-2017) – M.S.C.E.: “LCSA Framework for Evaluation of Bio-mediated and Bio-inspired Technologies”
Brian Albin (2015-2017) – M.S.C.E.: “Effect of Overburden Stress on the Sample Disturbance of Intermediate Soils”
Christopher Krage (2012-2018) – Ph.D.: “Evaluation of Sample Disturbance of Intermediate Soils”
Michael Gomez (2013-2017) – Ph.D.: “Bio-cementation Field Scale Trials: Addressing the Challenges of Treatment Uniformity & Verification, Biostimulation, & By-product Management”
Alex Sturm (2012-2017) – M.S.C.E.: “Development of iBPT”
Anthony Rossiter (2014-2016) – M.S.C.E.: “Improved Pile Capacity Estimation with iBPT Measurements”
Kevin Kuei (2013-2015) – M.S.C.E.: “Pile Driving Mechanics at the Tip as Informed by Direct Measurements”

Collin Anderson (2013-2015) – M.S.C.E.: “Investigation of Cone Penetration in Bio-Cemented Soils”

Lisa Yabusaki (2013-2015) – M.S.C.E.: “Summary of Insurance Claims Against Geotechnical Firms”
(co-advisor, Dr. Pat Lucia advisor)

Chase Temple (2013-2015) – M.S.C.E.: “Development of Site/Soil Specific Correlation Factors for Converting iBPT Measurements to Equivalent SPT N_{60} Values”

Jon Pearson (2013-2014) – M.S.C.E.: “Sensitivity of Vertical Liquefaction Settlement Calculations to Equivalent N_{60} Values and Continuous Profiling Provided by the iBPT”

Christopher Krage (2012-2014) – M.S.C.E.: “Liquefaction Potential Evaluation of Sands with Fines using Variable Penetration Rate Cone Testing”

Aravinthan Thurairajah (2007-2013) – Ph.D.: “Development of a Removable Test Pile”

Michael Gomez (2011-2013) – M.S.C.E.: “Surface Stabilization of Mine Slopes with MICP”

Clayton Proto (2011-2013) – M.S.C.E.: “Permeability Reduction and Liquefaction Mitigation with Bio-Film Forming Bacteria”

Brina Mortensen (2006-2012) – Ph.D.: “Dynamic Engineering Properties of Bio-Improved Soils”

Brian Martinez (2006-2012) – Ph.D.: “Upscaling of Bio-Improves Soils for Field Application”

Robbie Jaeger (2006-2012) – Ph.D.: “Modeling of Variable Rate Cone Penetration Testing”

Daniel Bernardi (2011-2012) – M.S.C.E.: “Bio-Bricks: Development of Bio-Cemented Sandstone Brick”

Gail da Silva (2010-2012) – M.S.C.E.: “Performance of Bio-Improved Soils Subjected to Dynamic Loading”

Nicholas Broussard (2010-2012) – M.S.C.E.: “Selection of Rigidity Index for CPT Analysis”

Doug Wahl (2009-2012) – M.S.C.E.: “Development of an Automated Control System Variable Penetration Rate CPT Testing”

Jack Waller (2010-2011) – M.S.C.E.: “CT-Imaging of Bio-Cemented Soil Subjected to Triaxial Shearing”

Mark Pinske (2010-2011) – M.S.C.E.: “Comparative Life Cycle Assessment of Ground Improvement Methods”

Matthew Weil (2008-2010) – M.S.C.E.: “Monitoring Techniques and Permanence of Bio-Improved Soils”

Nicholas Yafrate (2004-2009) – Ph.D.: “Evaluation of Full-Flow Penetration Probes for Characterizing Soft Sediments”

Matthew Gross (2008-2009) – M.S.C.E.: “Geology and Geotechnical Engineering of Clays in the Ione Formation”

Brina Mortensen (2006-2008) – M.S.C.E.: “Treatment Optimization for Microbially Induced Calcite Precipitation”

Brian Martinez (2006-2008) – M.S.C.E.: “Micro- and Macro-scale Studies of Microbially Induced Calcite Precipitation in Sands”

Robbie Jaeger (2006-2008) – M.S.C.E.: “Variable Rate Cone Penetration Testing for Characterizing Intermediate Soils”

Bernard Wair (2007-2008) – M.S.C.E.: “Guidelines for V_s Values Based on In-situ and Laboratory Tests”

Kylan Kegal (2007-2008) – M.S.C.E.: “Evaluation of Variable Penetration Rate CPT Testing in Mixed Soils”

Sueong Rho (2008) – M.S.C.E.: “Evaluation of Methods for Estimating Secondary Compression of Clay Deposits”

- Zachary Westgate (2004-2005) – M.S.C.E.: “Development of a Interface Critical State Framework using PIV and Cyclic Interface Shear Testing”
- Geoffrey Christoph (2003-2005) – M.S.C.E.: “Influence of Particle Properties and Initial Specimen State on the Specimen Response to One-Dimensional Loading at High Stresses”
- Michael Fritzges (2003-2005) – M.S.C.E.: “Biologically Induced Improvement of the Response of Sands to Monotonic and Impact Loading”
- Nicholas Yafrate (2002-2004) – M.S.C.E.: “Development of a Miniature Piezoprobe for Delineating Soil Layers”
- Daniel Howey (2002-2004) – M.S.C.E.: “Effect of Surface Texturing on Axial Pile Capacity in Sand and Clay”

Co-Advisor

- Yoonah Kim (2020-present) – visiting Ph.D. student from KAIST: “Physical modeling of tree-root inspired anchorage systems” (Tae-Kyuh Kwon in primary advisor)
- Phillip Baek (2020-present) – Ph.D. student at KAIST: “Effect of MICP on particle scale engineering properties” (Tae-Kyuh Kwon in primary advisor)
- YuYan Chen (2018-present) – Ph.D.: “Discrete Element Modeling of the Bio-Inspired Self-Penetration Process of an In-Situ Testing Probe” (Alejandro Martinez is primary advisor)
- Ali Khosravi (2017-2019) – Post-doc: “DEM Modeling of Cone Penetration” (Alejandro Martinez is primary advisor)
- Peng Xiao (2018-2020) – Ph.D.: “Centrifuge Modeling of MICP Treated Soils”
- Charles Graddy (2016-present) – Ph.D.: “Microbial Processes in MICP” (Doug Nelson is primary advisor)
- Yuze Wang (2016-2018) – Ph.D.: “Investigation of MICP Cementation at the Pore Scale” (Kenichi Soga, University of Cambridge is primary advisor)
- Nick Paull (2016-2020) – Ph.D.: “Effect of Spatial Variability on the Failure Mechanisms of Dams” (Ross Boulanger primary advisor)
- Kathleen Darby (2013-2018) – Ph.D.: “Centrifuge Testing of Intermediate Soils” (Ross Boulanger primary advisor)
- Diane Moug (2012-2017) – Ph.D.: “Development of ALE formulation in FLAC for Simulating Cone Penetration” (Ross Boulanger primary advisor)
- Adam Price (2012-2018) – Ph.D.: “Modeling of Intermediate Soil Behavior Using MIT-S1 Constitutive Model” (Ross Boulanger primary advisor)
- Jacky Bronner (2014-2016) – M.S.C.E.: “Centrifuge Testing of Intermediate Soils” (Ross Boulanger primary advisor)
- Lisa Yabusaki (2013-2015) – M.S.C.E.: “Summary of Insurance Claims Against Geotechnical Firms” (with Dr. Pat Lucia)
- Ian Maki (2010-2012) – M.S.C.E.: “Relation of Limiting Compression Curve in Intermediate Soils to Cone Penetration Resistance” (Ross Boulanger primary advisor)
- Karina Dahl (2006-2011) – Ph.D.: “Cyclic Behavior of Low-Plasticity Fine Grained Soil” (Ross Boulanger primary advisor)
- Joe Tom (2009-2011) – M.S.C.E.: “An Experimental and Numerical Investigation of Variable Penetration Rate CPT Testing in a Silty Clay” (Ross Boulanger primary advisor)
- Dong Soon Park (2007-2011) – Ph.D.: “Strain Localization in Sensitive Clay Slopes Subjected to Dynamic Loading” (Bruce Kutter primary advisor)

Undergraduate Research/Special Project Advisor

50+ undergraduate research students and long-term visiting researchers

Education Related Experience

Teaching

@ University of California Davis

Soil Mechanics (Fall 2005, 2006, 2007, 2011, 2012, 2013) – ECI 171

Soil Mechanics Laboratory (Fall 2005, 2006, 2007, 2011, 2012, 2013, 2014, 2015) – ECI 171

Foundation Design (Winter 2009, 2011, Spring 2022) – ECI 173

Advanced Soil Behavior (Fall 2009, 2020, 2015; Winter 2007, 2008, 2009, 2011, 2012, 2014, 2015, 2017, 2018, 2019, 2020, 2022) – ECI 281B

Advanced Foundation Design (Fall 2010, 2016; Spring 2006, 2007, 2008, 2009, 2012, 2014, 2015, 2016) – ECI 286

Geotechnical Earthquake Engineering (Fall 2017, 2018, 2019, 2021) – ECI 175

Undergraduate Senior Design Course – (Winter & Spring 2018, 2019, 2020) – ECI193

Graduate Seminar (Spring 2009) – ECI 290

@ University of Massachusetts Amherst

Soil Mechanics (Spring 2002, Fall 2002, Fall 2003, Spring 2005) – CEE 320

Soil Mechanics Honors (Spring 2002) – CEE 320H

Civil and Environmental Engineering Laboratory (Fall 2003, Spring 2004) – CEE 365

Undergraduate Independent Study (Spring 2004) – CEE 496

Ground Improvement (Spring 2003, Fall 2004) – CEE 523

Geotechnical Seminar (Spring 2004) – CEE 694A

Scientific and Engineering Management (Spring 2005) – CEE 797B & PSE797D

Teaching Pedagogy Development

Lilly Teaching Fellow, (2003-2004), Center for Teaching, University of Massachusetts Amherst

Invited Participant, National Science Foundation Engineering Education Scholars Workshop, Carnegie Melon University, Pittsburgh, PA, July 16-21, 2000.

Instruction Materials

DeJong, J.T. and Boulanger, R.W. (2000) “Introduction to Drilling and Sampling in Geotechnical Practice”, Educational Video, 2nd Edition. 35 min., <http://www.sil.ucdavis.edu/resources-drillingvideo.htm>

DeGroot, D.J., and DeJong, J.T. (2004-2005) *CEE 320 Soil Mechanics Laboratory Manual*.

Professional Affiliations and Service

Professional Affiliations

American Society of Civil Engineers, Associate Member (1999-present)
Canadian Geotechnical Society, International Member (2003-present)
International Society of Soil Mechanics and Foundation Engineering (2001-present)
Pacific Earthquake Engineering Research Institute (2015-present)
United States Society of Dams (2015-2019)
University States University Council on Geotechnical Education and Research, Member (2002-present)
Sigma Xi, Associate Member (1998-2017)
National Earthquake Engineering Simulation Consortium (2004-2015)
American Society for Testing and Materials, Member (2002-2006)
Transportation Research Board, Young Member (2002-2005)
ADSC-International Association of Foundation Drilling, Associate Member (1998-2004)
Georgia Tech Geotechnical Society, Member (1996-2001)
Engineer in Training, License #XE096729, State of California (1995)

Professional Service

Department, College, and University Service

Chair (2022) – Lecturer Search Committee, Department of Civil & Environmental Engineering
Member (2020-2021) – Ad-hoc Budget Committee, College of Engineering
Member (2020) – Material Science and Engineering Graduate Program Review Committee, College of Engineering
Member (2020-present) – Awards Committee, College of Engineering
Founder (2019) – Established Patrick C. Lucia Graduate Scholarship Award Fund, Department of Civil & Environmental Engineering
Advisor (2014-2016, 2017-2018) – Geotechnical Graduate Student Society, Department of Civil & Environmental Engineering
Member (2018) – Technician Search Committee, Department of Civil & Environmental Engineering
Participant (2017) – Strategic Planning Initiative, College of Engineering
Member (2016) – Geotechnical Faculty Search Committee, Department of Civil & Environmental Engineering
Member (2015-present) – Space Committee, Department of Civil & Environmental Engineering
Member (2013-2019) – Faculty Executive Committee, College of Engineering
Lecturer (2009, 2011, 2012) – *Professors for the Future Program*, University of California, Davis
Graduate Group Coordinator for Geotechnical Group (2007-2009, 2010-2011, 2012-2013, 2022-present)
Lecturer (2008) – Careers in Higher Education: Public and Private Research Institutions, University of California, Davis
Lecturer (2007) – Pathways Career Symposium, University of California, Davis
Co-Chair (2006) – Bainer Laboratory Space Committee, Department of Civil and Environmental Engineering, University of California, Davis

Member (2005-2007) – Award Committee, Department of Civil and Environmental Engineering, University of California, Davis

Member (2003-2005) – Undergraduate Curriculum Committee, Department of Civil and Environmental Engineering, University of Massachusetts Amherst

Member (2002-2003) – Machine Shop Services Committee, College of Engineering, University of Massachusetts Amherst

International and National Service

Chair (2022-present), Vice-Chair (2017-2022), Secretary (2014-2017) & Member (2014-present) – ISSMGE, TC102, Ground Property Characterization from In-situ Tests

Chair (2008-2012), Secretary (2003-2007) & Member (2012-present) – ASCE, Soil Properties and Modeling Committee

Member (2003-present) – ASCE, Engineering Geology and Site Characterization

Member (2003-2008) – University States University Council on Geotechnical Education and Research, Research Committee

Member (2002-2005) – ASTM, Committee D18.02 – Sampling and Related Field Testing for Soil Evaluation

Member (2002-2005) – ASTM, Committee D18.05 – Strength and Compressibility of Soils

Young Member & Secretary (2002-2005) – TRB, Committee AFS20 – Soils and Rock Instrumentation

Publication Service

Editorial Board Member

ICE, Geotechnique Letters (2016-2020)

ASCE, Journal of Geotechnical and Geoenvironmental Engineering (2008-2017)

ICE, Environmental Geotechnics (2013-2015)

ASTM, Geotechnical Testing Journal (2006-2013)

Journal Reviewer

Acta Geotechnica

Applied Geochemistry

Biogeosciences

Canadian Geotechnical Journal

Computers and Geotechnics

Construction and Building Materials

Construction Materials

Earthquake Spectra

Ecological Engineering

Engineering Geology

Environmental Geotechnics

Environmental Science and Technology

European Journal of Environmental and Civil Engineering

Frontiers of Structural and Civil Engineering

Geomicrobiology
Geotechnical and Geological Engineering
Geotechnical Engineering
Geotechnique
Geotechnique Letters
Geotextiles and Geomembranes
International Journal of Geomechanics
International Journal of Numerical and Analytical Methods
International Journal of Offshore and Polar Engineering
Journal of Geotechnical Testing
Journal of Testing and Evaluation
Journal of ASTM International
Journal of Geotechnical and Geoenvironmental Engineering
Journal of Materials in Civil Engineering
KSCE Journal of Civil Engineering
Reviews in Environmental Science and Biotechnology
Rock Mechanics and Geotechnical Engineering
Science of the Total Environment
Soil Dynamics and Earthquake Engineering
Soils and Foundations
Transportation Research Record

Research Proposal Reviewer

Brazil Science Foundation
Academy of Finland
Italian Ministry of Education and Research
Israel Science Foundation
Singapore Science Foundation
Swiss National Science Foundation
Technology Foundation STW, Netherlands
UK Engineering and Physical Sciences Research Council
US National Science Foundation