

GIOVANNA BISCONTIN

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EDUCATION

2001	Ph.D.	University of California Berkeley Geotechnical Engineering Seismic triggering of submarine slopes, advisor J.M. Pestana
1998	M.S.	University of California Berkeley Geotechnical Engineering
1997	Laurea	Universita' degli Studi di Padova (Italy) Geotechnical Engineering Small strain stiffness of Venice Lagoon soils, supervisor G. Ricceri, P. Simonini

EMPLOYMENT

2020-present	Program Director	US National Science Foundation Engineering for Civil Infrastructure Program Civil, Mechanical, and Manufacturing Innovation Division, Engineering Directorate Lead NSF vision and manage award portfolio for geotechnical and coastal engineering research Lead vision, manage, and participate in cross-cutting funding initiatives Participate in inter-agency committees and working groups
2025-present		Manage Natural Hazard Engineering Research Infrastructure (NHERI) network facilities Manage awards for design phase of two Mid-scale Research Infrastructure facilities Manage Inter-Agency Agreements
2021-2022	Associate Professor	Cambridge University Department of Engineering
2020 January-March	Visiting Associate Professor	University of Kyoto Graduate School of Agriculture
2019- 2021	Director Master of Research Program	EPSRC Centre for Doctoral Training in Future Infrastructure and the Built Environment: Resilience in a changing world (FIBE2) Cambridge University

2018-2019	Director of Studies	Emmanuel College (1 st year Eng. Students)
2014-2022	Fellow	Emmanuel College, Cambridge
2013-2021	University Lecturer	Cambridge University, Department of Engineering
2009	Assistant Division Head	Construction Geotechnical and Structural Engineering Division, Texas A&M University
2008-2010	Zachry Career Development Assoc. Professor II	Texas A&M University, Department of Civil Engineering
2008-2013	Associate Professor	Texas A&M University, Department of Civil Engineering
2002-2008	Assistant Professor	Texas A&M University, Department of Civil Engineering
1997-2001	Graduate Student Researcher	University of California Berkeley, Department of Civil and Environmental Engineering
1999-2001	Graduate Student Instructor	University of California Berkeley
1995	Undergraduate Research Assistant	University of California Berkeley

AWARDS

2024	Institution of Civil Engineers (ICE) Telford Premium Publishing Award for the paper “Effects of biochar on cement-stabilised peat soil,” By Jeffrey Lau, Giovanna Biscontin, Debora Berti in <i>Ground Improvement</i>
2019	Institution of Civil Engineers (ICE) Telford Premium Publishing Award for the paper “A Bayesian definition of ‘most probable’ parameters,” by Jin Y., Biscontin, G., and Gardoni P. in <i>Geotechnical Research</i> .
2012	Japanese Society for the Promotion of Science Short-term fellowship (December 12-January 13).
2012	Williams Brothers Construction Company Faculty Fellow Dwight Look College of Engineering, Texas A&M University .
2011	Outstanding Young Investigator Award International Association for Computer Methods and Advances in Geomechanics.
2010	Lockheed Martin Aeronautics Company Excellence in Engineering Teaching Award Dwight Look College of Engineering, Texas A&M University.
2009	Truman R. Jones Award for Excellence in Graduate Teaching Zachry Department of Civil Engineering, Texas A&M University.
2008-2010	Zachry Career Development Professorship Zachry Department of Civil Engineering, Texas A&M University.

- 2006 **ExCEED New Faculty Excellence in Teaching Award**
American Society of Civil Engineers.
- 2005 **Lockheed Martin Aeronautics Company Excellence in Engineering Teaching Award**
Dwight Look College of Engineering, Texas A&M University.
- 2004-2005 **Zachry Award for Excellence in Teaching**
Department of Civil Engineering, Texas A&M University.
- 2005 **National Science Foundation “CAREER” Award**
- 2000 **Outstanding Graduate Student Instructor Award**
Conferred to less than ten percent of student instructors at the University of California, Berkeley.
- 1999 **Fondazione Ing. Aldo Gini**
University of Padova grant for study abroad awarded to distinguished students in all fields of engineering.
- 1998 **Harry Bolton Seed Award**
Awarded to the most distinguished student in the Geotechnical Engineering Program at the University of California Berkeley.
- 1994 **Universita’ degli Studi di Padova and University of California Berkeley Joint Education Abroad Scholarship**

RESEARCH MANAGENT HIGHLIGHTS

- NSF-wide lead - CAREER Coordination Committee
- Lead - Boosting Research Ideas for Transformative and Equitable Advances in Engineering (BRITE)
- Lead for Sustainable Built Environment - Emerging Frontiers and Multidisciplinary Activities -
- Lead - Disaster Resilience Research Grants – in collaboration with the National Institute of Standards and Technology
- Lead for wind energy - Clean Energy Technology
- Engineering representative Ideas Lab: Engineering Technologies to Advance Underwater Sciences
- Engineering representative - Strengthening America Infrastructure

TEACHING EXPERIENCE

Cambridge University

- 2019-2020 **Master of Research Curriculum Development**
Engineering and Physical Sciences Research Council Centre for Doctoral Training in Future Infrastructure and the Built Environment: Resilience in a changing world (FIBE2). Developed and implemented the new curriculum.
- 2018-2019 **Integrated Coursework: Buildings in Earthquakes**
Coordinator of a set of experiments bringing together different engineering experiences to study the dynamic response of buildings. About 300 2nd year students.
- 2017-2019 **Advanced Numerical Methods in Geomechanics**
Post-graduate course.

- 2014-2019 **Foundation Engineering**
- 2014-2019 **Geotechnical Engineering I**
Lectures and laboratory component.
- 2014-19 **Advanced Experimental Methods in Geomechanics**
Post-graduate course. 2-hr module on geotechnical laboratory testing and 2-hr practical laboratory session.
- 2014-2018 **Exposition**
Communication skills and writing.
- 2014-present **Emmanuel College, Supervisions for IA Mechanics and Structures**
First year students.

Texas A&M University

- 2013 **Dynamic Soil Structure Interaction**
Graduate course two 1.5-hr lectures per week (14 weeks).
- 2012, 2013 **Computer Applications for Engineering and Construction**
Two lectures and a three hour laboratory per week (14 weeks) with 40-50 undergraduate students.
- 2004, 2006,
2008, 2010,
2012 **Soil Dynamics**
Graduate course two 1.5-hr lectures per week (14 weeks). The class also includes projects in probabilistic seismic hazard assessment (PSHA) and seismic site response analysis.
- 2003-2007,
2011 **Introduction to the Civil Engineering Profession**
Undergraduate sophomore level course, weekly one hour seminar with 100-130 students. Additional course duties as course coordinator.
- 2002-2012 **Advanced Physical and Engineering Properties of Soils**
Graduate course: two lectures and a three hour laboratory per week (14 weeks). The laboratory is a major component of the class and is taught by the instructor.
- 2002-2011,
2013 **Introduction to Geotechnical Engineering**
Two lectures and a three hour laboratory per week (14 weeks) with 40-70 undergraduate students. Development of the laboratory manual.

University of California, Berkeley

- 2000-2001 **Numerical Methods in Geomechanics.**
Conducted lectures and laboratories on the use of Plaxis, the finite element package selected for the class. Graded homework, developed solutions and held office hours.
- 1999 **Introduction to Programming for Scientist and Engineers.**
Independently planned and delivered three discussion sections a week, for a total of 100 students.

RESEARCH PROJECTS

External Funding

GEOLAB, enhancing Europe's Critical Infrastructure, ECH2020 Research Infrastructure (RI), PI: G. Viggiani, co-PI: G. Biscontin, G. Madabhushi, 06/2020-05/2024, Amount: £477,831.

CMMI-EPSRC: Modeling and Monitoring of Urban Underground Climate Change, EPSRC-NSF, PI: Ruchi Choudhary, coPIs: Giovanna Biscontin, Kenichi Soga and Matthew DeJong (University of California, Berkeley), 1/11/19-31/10/2022, Amount: £420,171 (UK budget).

EPSRC Centre for Doctoral Training in Future Infrastructure and Built Environment: Resilience in a Changing World (FIBE2), EPSRC (EP/S02302X/1), PI: Abir Al-Tabbaa (Cambridge Univ), co-PIs: G. Biscontin, R. Mair, A. McRobie, J. Lees, and I. Brilakis. 10/2019-3/2028, Amount: £ 6,761,084.

Polymer Support Fluid for Piling and diaphragm walls Industrial CASE Award EPSRC, in collaboration with Ove Arup & Partners Ltd., PI: Giovanna Biscontin, 10/2017-9/2022, funding for one PhD student's maintenance and fees from EPSRC, industry funding £27,800.

PLEXUS - Priming Laboratory EXperiments on infrastructure and Urban Systems, EPSRC (EP/R013535/1), PI: Christopher Rogers (University of Birmingham), co-Is: Giovanna Biscontin and 30 others at 10 universities, 10/2017-02/2021, Amount: £1,001,077.

Developing performance-based design for foundation systems of WIND turbines in AFRICA (WindAfrica), EPSRC Global Challenges Research Fund (EP/P029434/1), PI: Ashraf Osman (Durham University), co-Is: Giovanna Biscontin and 11 others (University of Pretoria, University of Khartoum, University of Dar es Salam), 05/2017-4/2021, Amount: £1,249,589.

Modelling tremie concrete Industrial CASE Award EPSRC, in collaboration with Ove Arup & Partners Ltd., PI: Giovanna Biscontin, 10/2016-01/2021, funding for one PhD student's maintenance and fees from EPSRC, industry funding £27,150.

Rupture-resistant filter cakes for wellbore strengthening, Industrial CASE Award EPSRC, in collaboration with BP, PI: Giovanna Biscontin, 10/2016-9/2020, funding for one PhD student's maintenance and fees from EPSRC, industry funding from BP-ICAM program.

Improving water injection in soft sands, BP-ICAM Program, PI: Peter King (Imperial College) and Giovanna Biscontin, co-I: Kenichi Soga, Norman Fleck, Rafi Blumenfeld (Imperial College), 1/2016-10/2020, Amount (Cambridge): £388,477.

Rupture-resistant filter cakes for wellbore strengthening, BP-ICAM Program, PI: Giovanna Biscontin and Philip Withers (University of Manchester), co-I: Alexandre Routh, Kenichi Soga and Norman Fleck, 1/2016-10/2020, Amount (Cambridge): £709,236.

Coupled geomechanical modeling and Wellbore monitoring systems, in the **Cooperation agreement related to doctorate programs and post-doctoral positions** sponsored by CNPq and BG E&P LTDA, PI: Kenichi Soga, Co-I: Giovanna Biscontin. 7/2015-6/2020. Amount: 20 PhD fellowships and 6 post-doc grants.

European network for shallow geothermal energy applications in buildings and infrastructures (GABI), PI: Sebastien Burlon (French Institute of Science and Technology for Transport, Development and Networks, IFSTTAR). TUD COST Action TU1405, 03/2015 - 02/2019.

Adaptive design of supported excavations, Centre for Digital Built Britain, PI: Giovanna Biscontin, 01/2018-03/2018, Amount: £14,385.00.

Advanced soil models to be incorporated into commercially available software, Secondment to the Centre for Smart Infrastructure and Construction (CSIC) from Arup (Dr Samila Bandara), August 2017 to March 2018.

Achieving value for basement designs using back-analysis processes, Ove Arup & Partners Ltd., PI: Giovanna Biscontin, 1/2015-12/2018, Amount: £90,000.

NEESR-CR: Capacity and Performance of Foundations for Offshore Wind Towers, US National Science Foundation (NSF 1041604), PI: Giovanna Biscontin, co-PI: Charles P. Aubeny, R. Radhakrishnan (Prairie View A&M University), 01/2011-12/2014. Amount: \$ 542,843.

MRI: Development of a high pressure and temperature, biaxial deformation apparatus for earthquake and landslide studies, US National Science Foundation (NSF), PI: Frederick Chester, co-PI: Andreas Kronenberg, Julie Newman, Judith Chester, Giovanna Biscontin, 8/2011-8/2014, Amount: \$687,482.

Material Uncertainties in Assessing Soil Strength from Geophysical Surveys, US Navy, Naval Facilities, PI: Giovanna Biscontin, co-PI: Charles P. Aubeny, 6/2012 - 6/2013, Amount: \$70,000.

Design Parameters and Methodology for Mechanically Stabilized Earth (MSE) Walls, Texas Department of Transportation (TxDOT), PI: Charles P. Aubeny, Co-PIs: Giovanna Biscontin and Jie Huang (University of Texas San Antonio), 10/2011 - 9/2013.

REU Site: Interdisciplinary Research on Granular and Particulate Materials, US National Science Foundation, Division of Materials Research DMR 0851828, PI: K. Rajagopal, co-PI: G. Biscontin, 04/09-03/13. Amount: \$300,000

Supplement to CAREER (support for REU), US National Science Foundation (NSF), PI: Giovanna Biscontin, 09/2010-08/2012. Amount: \$6,000.

Supplement to CAREER (support for doctoral student), US National Science Foundation (NSF), PI: Giovanna Biscontin, 09/2009-05/2012, Amount: \$34,870.00.

CAREER: Characterizing and Modeling of Marine Clays for Submarine Slope Stability, US National Science Foundation (NSF), PI: Giovanna Biscontin, 06/2005-05/2012. Amount: \$400,000.

Dynamics Visualization: Multiple Models for Civil Engineering Dynamics, US National Science Foundation (NSF), Division of Undergraduate Education DUE0536834, PI: James Morgan, Co-PI's: Luciana Barroso, Giovanna Biscontin, Vinod Srinivasan, Donald House (Dept. of Architecture), 04/2006-03/2009. Amount: \$125,000.

NEESR-II: In Situ Determination of Soil Modulus and Damping as a Function of Level of Strain, US National Science Foundation (NSF), PI: Giovanna Biscontin, Co-PI's: Luciana Barroso, Jose M. Roesset, Kenneth Stokoe (The University of Texas at Austin), 10/2004- 09/2009. Amount: \$447,490.

Double-Wall Impact Protection Levee Project: Laboratory and Numerical Testing of Levee Performance Under Wave Action at Varying Flood Levels, S.Z.S. Consultants, Inc. PI: J. Irish, G. Biscontin, 06/08-05/09. Amount: 49,388.

Seafloor Interactions with Steel Compliant Risers, Mineral Management Service, Department of the Interior and Industry, PI: Charles Aubeny, Giovanna Biscontin, Jun Zhang, 12/2004- 08/2008. Amount: \$90,000 (Dec04-Aug05), \$171,640 (Jan05-Aug08).

US-Brazil Consortium for Interdisciplinary Action on Earth Resources and Environmental Issues, United States Department of Education, PI: Cynthia Finley (University of Missouri, Columbia), co-PI: Giovanna Biscontin, 09/2004-08/2008. Amount: \$199,938.

Review of Probabilistic Seismic Hazard Analysis (PSHA) for the STP COLA, STP Nuclear Operating Company, PI: Giovanna Biscontin, 05/2007-12/2007. Amount: \$40,000.

Out-Of-Plane Loading on Plate Anchors, Mineral Management Service, Department of the Interior and Industry, PI: Ward, Emmett G., Co-PIs: Charles Aubeny, Giovanna Biscontin, J. Don Murff,, 11/2006-08/2007. Amount: \$25,195.00.

Design Manual for Excavation Support using Deep Mixing Technology, CALTRANS, PI: Jean-Louis Briaud, Co-PI: Giovanna Biscontin, 06/2003 - 06/2004. Amount: \$57,638.

Catenary Riser Experiments, Shell International Exploration & Production, Inc., PI: Giovanna Biscontin; 11/15/03 - 03/15/04. Amount: \$22,410.

Deep Star Phase IV, Chevron Texaco, PI: J. Don Murff, Charles Aubeny, Co-PI: Giovanna Biscontin, 09/02/02-12/31/03. Amount: \$40,000.

Internal Funding

Advanced Sensors for Experimental Research in Geotechnical Engineering, Research Innovation Program, Department of Civil Engineering, Texas A&M University, PI: Giovanna Biscontin, competitive proposal, 09/01/2002 - 08/31/2003. Amount: Support for 1 graduate student for 1 year.

EU International Travel Grant, European Union Center, Texas A&M University, PI: Giovanna Biscontin, competitive proposal, 08/08/2004 - 08/22/2004. Amount: \$1,725.

Research Development Initiatives

Modeling the compressive Response of Venice Lagoon Soils, Giovanna Biscontin, Paolo Simonini, Simonetta Cola (University of Padova, Italy) and Juan M. Pestana (University of California, Berkeley). June 2001-December 2007.

Probabilistic and Reliability Analysis of Settlements of Venice Lagoon Soils, Giovanna Biscontin, Paolo Gardoni (Texas A&M University), and Paolo Simonini, Simonetta Cola (University of Padova, Italy). 2005-2009. Doctoral student: Byoung Chan Jung.

Probabilistic and Reliability Analysis of Excavation Support Systems, Giovanna Biscontin and Paolo Gardoni (Texas A&M University). 2007-2011. Doctoral student: Jun Kyung Park.

Response of Assemblies of Spheres, Giovanna Biscontin and Catherine O'Sullivan (Imperial College, London, U.K.). Started: September 2009. Doctoral student: Michelle Bernhardt. Ms. Bernhardt received the NSF Graduate Student Research Fellowship in 2010 for this project.

RESEARCH SUPERVISION

University of Cambridge**Post-doctoral supervisor**

Ningjun JIANG, July-December 2016, “Improving water injection in soft sands,” sponsored by the BP-ICAM Program. Currently **Professor at Southeast University (China)** since 202, **University of Hawaii at Manoa (USA)** 2017-2021.

Krishna SOUNDARARAJAN, December 2015 to December 2018, “Coupled geomechanical modeling and Wellbore monitoring systems,” sponsored by Shell Brazil. Currently **Associate Professor at the University of Texas at Austin (USA)** since January 2019.

Ramesh K. KANDASAMI, March 2017 to April 2019, “Rupture-resistant filter cakes for wellbore strengthening,” and G25 “Improving water injection in soft sands,” sponsored by the BP-ICAM Program. Currently **Associate Professor at the Indian Institute of Technology Madras (India)** since May 2019.

Yi RUI, August 2019 - January 2020, “PLEXUS - Priming Laboratory EXperiments on infrastructure and Urban Systems,” sponsored by EPSRC. Currently, **Professor at Tongji University (China)**.

Khalid M.A. ALHAJ ABDALLA, April 2018 to 2022, “Developing performance-based design for foundation systems of WIND turbines in AFRICA (WindAfrica),” sponsored by the EPSRC Global Challenges Research Fund. Currently, **Lecturer at London Metropolitan University (UK)**.

Mengchen SUN, July 2019 to January 2021, “PLEXUS - Priming Laboratory EXperiments on infrastructure and Urban Systems,” sponsored by EPSRC. Currently, **Lecturer at the University of Emergency Management (China)**.

Charalampos KOSTANTINOU, February 2021 to September 201, “Hydraulic fracturing of artificially generated soft sandstone,” sponsored by bp-ICAM. Currently, associate researcher at the **University of Cyprus** since October 2021.

Doctoral supervisor (completed)

Eman ALSWAITY, “Implementation of an anisotropic plasticity model and its application to pile foundations problems,” January 2023.

Ying CHEN, “Application of new observational method on deep excavation retaining wall design in London Clay,” September 2021.

Jikai GUO, “Experimentally validated DEM modelling of granular materials under simple shear testing,” December 2022.

Yingyan JIN, “Supervised learning for back analysis of excavations in the observational method,” May 2018. Currently, **assistant professor, Tongji University (China)**.

Charalampos KOSTANTINOU, “Hydraulic fracturing of artificially generated soft sandstone,” February 2021. Currently, associate researcher at the **University of Cyprus** since October 2021.

Jeffrey LAU, “Static and dynamic performance of biochar enhanced cement stabilized peat,” July 2019.

Gianmario SORRENTINO, “Effect of filtration process variables on filter cake process and formation,” September 2021.

Mengchen SUN, “The effects of multi-directional loading on soil liquefaction,” October 2019.

Stephanus VAN EEDEN, “Behaviour of locked sand during cavity expansion,” October 2019.

Christopher WILKES, “Modelling tremie concrete placement in deep foundations,” September 2021.

Doctoral advisor

Jad BAKSMATI, Supervisor: G. Madabhushi, start Oct. 2016
 Vanessa DI MURRO, Supervisor: K. Soga, start: Oct. 2014
 Lucy HARRIS, supervisor: D. Liang, start Oct. 2017
 Srikanth MADABHUSHI, Supervisor: S.K. Haigh, start: Oct 2014
 Hansini MALLIKARACHCHI, Supervisor: K. Soga, start: Oct. 2014
 Oliver McMILLAN, Supervisor: A. Al-Tabbaa, start: Oct. 2014
 Amanda MURPHY, Supervisor: K. Soga, start: Oct. 2014
 Rupesh PATIL, Supervisor: G. Madabhushi, start Oct. 2015
 Simon PRICE (Geography), Supervisor: , start: Oct 2014
 Zhengtao SHEN, Supervisor: A. Al-Tabbaa, start: Oct. 2013
 Shenzi WANG, Supervisor: M. Elshafie, start Oct. 2015

MPhil Supervisor

Hassan FAROOQ, “Rupture-resistant filter cakes for wellbore stability,” 2019-21
 Kirstyn HEIN, topic: lateral capacity of short piles in clay, 2015-16
 Helen SIMS, “Fluid loss and adsorption of polymer support fluids used in deep foundations,” 2018-20

MEng Supervisor

Peter DEWHURST, Characterizing the shear strength profile of clay in the centrifuge, 2014-15
 Laura KING, Model testing of riser-seafloor interaction, 2014-15 (best presentation in its session at final event)
 Alex LEUNG, Small Strain Stiffness of Soils from Field Measurements, 2014-15
 Stephanie MENNECIER, Modelling SCR Installation, 2014-15
 Mar GIMENEZ FERNANDEZ, Torsional interface testing, 2015-16
 Laura ANDREWS, Torsional interface testing, 2016-17 (best presentation in its session at final event)
 Martha DILLON, Lateral loading of piles, 2016-17
 Freddie HAMPEL, Stiffness and strength of soils, 2016-17
 James HORN, Effect of climate change on erodibility of soil, 2016-17 (best presentation in its session at final event)
 Amira DAMJI, Polymer muds for excavation support, 2017-18
 David BUGGLASS, Physical modeling of tremie concrete flow, 2017-18
 Jin ZHENG, Experimental investigation of bleed, 2018-19 (best presentation in its session at final event)
 Irina SHMELEVA, Physical modeling of tremie concrete flow, 2018-19

Thesis Examiner – PhD 2013-present

Internal: Ermao Xu (11/2014)
 Peter Kirkwood (10/2015)
 Funmi Alayake (11/2015)
 Ningjun Jang (6/2016)
 Zhengtao Shen (12/2016)
 Adnan Mortada (2/2017)
 John Wong (6/2017)
 Shayamini Kularathna (11/2017)
 Srikanth Madabhushi (9/2018)
 Simon Price (11/2018) Geography

Tsubasa Sasaki (3/2019)

External: H. Shiri Ghaleh Jugh (4/2010) University of Western Australia
 Zachary J. Westgate (8/2012) University of Western Australia
 Xiaojun Li (8/2015) University of Western Australia
 Rafael Rodriguez-Ochoa (10/2015) University of Oslo
 Colm Padraig O’Beirne (10/2016) University of Western Australia
 Bhagaban Acharya (3/2018) University of Sydney, Australia
 John Ejezie (7/2018) University of Manchester, UK
 Zefeng Zhou (6/2019) University of Western Australia

Thesis Examiner – MPhil 2013-present

Internal: Musa P.M. Chungue (3/2015), Jing Dong (10/2016), Pietro Bologna (2/17)

Texas A&M University

Doctorate - Chair of Committee

Jaehun AHN, “In situ determination of dynamic soil properties under an excited surface foundation.” August 2007. Currently, **Professor at Pusan National University on South Korea.**

Byoung Chan JUNG, Co-Chair: Dr. P. Gardoni, “Probabilistic and reliability analysis of settlements applied to Venice Lagoon Soils,” May 2009.

Jun Kyung PARK, Co-Chair: Dr. P. Gardoni, “Adaptive reliability analysis of excavation problems,” August 2011.

Cassandra J. RUTHERFORD, “Development of multi-directional simple shear testing device for characterization of the cyclic shear response of marine clays,” May 2012, currently **Associate Professor at Iowa State University.**

Junghwan YOU, Co-Chair: Dr. C.P. Aubeny, “Numerical modeling of seafloor interaction with steel catenary risers.” August 2012.

Hamidreza NOURI, “Numerical methods in offshore geotechnics: application to submarine landslides and anchor plates.” May 2012.

Michelle BERNHARDT, “Examination of granular material behavior in a laminar-type direct simple shear device using laboratory validated discrete element method simulations.” December 2013, currently **Associate Professor at the University of Arkansas.**

Vishal S. DANTAL, Co-Chair: Dr. C.P. Aubeny, “Material characterization and design considerations for mechanically stabilized earth retaining walls,” December 2013.

Madhuri MURALI, “Characterization of soft clays and the response of soil-foundation system for offshore applications,” August 2015.

Francisco GRAJALES, Co-Chair: Dr. C.P. Aubeny, “Lateral capacity of piles and caissons in cohesive soils,” December 2016, currently **Professor at the Universidad Tecnologica de Panama.**

Doctorate - Committee Member

Jeong Bok SEO, Chair: Dr. J.-L. Briaud, December 2003 (substitute)

Byoung Min KIM, Chair: Dr. C.P. Aubeny, “Predictive Models for Drag Embedment Anchors,” December 2005.

Wentao DAI, Chair: Dr. J.M. Roësset, “Evaluation of Base Isolation and Soil Structure Interaction Effects in Frequency Domain,” December 2005.

Remon ABDELMALAK, Chair: Dr. J.-L. Briaud, “Soil structure interaction for shrink-swell soils a new design procedure for foundation slabs on shrink-swell soils,” December 2007.

Gyeong-Taek HONG, Chair: Drs. R. Lytton and C.P. Aubeny, “Earth pressures and deformations in civil infrastructure in expansive soils,” May 2008.

Bertha OLMOS NAVARETTE, Chair: Dr. J.M. Roësset, “Nonlinear seismic response of Mexican bridges with base isolation accounting for soil structure interaction effects,” August 2008.

Hiroko KITAJIMA (Dept. of Geology), Chair: Dr. F. Chester, “Evolution of frictional behavior of Punchbowl Fault gauges sheared at seismic slip rates and mechanical behavior of Nankai Trough accretionary prism sediments deformed at different stress conditions.” December 2010.

Rosa Maria BANDA (Dept. of Educational Administration and Human Resources Development), Chair: Dr. Lechuga, “Perceptions of social networks and climate in the persistence of Latinas pursuing an undergraduate engineering degree.” August 2012.

Henry ARIAS, Chair: Dr. J.J. Schubert, Use of Finite-element Analysis to Improve Well Cementing in HTHP Conditions,” August 2013.

Jingqian KANG (Dept. of Geophysics), Chair: Dr. B. Duan, “Deformation of Compliant Fault Zones Induced by Nearby Earthquakes: Theoretical Investigations in Three Dimensions and Applications to The East California Shear Zone,” May 2014.

Hakan SAHIN, Chair: Dr R. Lytton, “Nondestructive Test Methods for Rapid Assessment of Flexible Base Performance in Transportation Infrastructures,” August 2014.

Mojdeh ASADOLLAHI PAJOUH, Chair: Dr. J.-L. Briaud, “Experimental and numerical investigation of impact loads on a group of piles,” December 2015.

Ryan D. BEEMER, Chair: Dr C.P. Aubeny, “Experimental studies of squat gravity caissons and monopiles for offshore applications,” May 2016.

Master of Science - Chair of Committee

Byoung Chan JUNG, “Modeling the Strain-Rate Dependent Response of Soft Clays,” May 2005.

Yaguang JIAO, Co-Chair: Dr. C.P. Aubeny, topic: interaction of steel catenary risers with the seafloor, May 2007.

Daniel TORRES, Co-Chair: Dr. J.M. Roësset, “Evaluation of the procedure used to determine nonlinear soil properties in situ.” December 2010.

Madhuri MURALI, “Characterization of Gulf of Mexico Clay using automated triaxial testing,” December 2011. Ms. Murali received a Zachry Department of Civil Engineering Award for Best Research at the MS level in 2012.

Mackenzie GARTON, co-chair: Dr. C.P. Aubeny, “Large scale triaxial testing of mechanically stabilized earth retaining wall backfill,” December 2012.

Rehan KHAN, “Assessing soil strength from geophysical surveys,” May 2014.

Master of Science - Committee Member: 16 students completed

Master of Engineering – Chair: 12 students completed

Master of Engineering - Committee Member: 12 students completed

Undergraduate Research Students

Chase GOODINGS “Visualization of earthquake shaking with MATLAB,” Fall 2004 - Spring 2005.
 Ronald GARDNER, “Steel catenary riser scale experiments,” Fall 2005 - Fall 2006.
 Samuel YOCHMOWITZ, “Steel catenary riser scale experiments,” Fall 2005 - Summer 2006.
 Alesha EPLEY, “Constant rate of strain consolidation testing on deep sea deposits,” Fall 2006 - 2007.
 Layne BUCKHAIR, “CRS consolidation testing of Gulf of Mexico clays,” summer 2009.
 Taniya THOMAS, “Geology of the Green Canyon in the Gulf of Mexico and standard characterization of soils”, summer 2009.
 Axel MONTALVO (University of Puerto Rico Mayaguez), “CRS consolidation testing of Gulf of Mexico clays,” summer 2010.
 Erica PARKER, “Triaxial testing of Gulf of Mexico clays,” summer 2010.
 Brian D. DIAZ (California State Polytechnic, Pomona), “Consolidation testing of Gulf of Mexico clays,” summer 2011.
 Yannick DWATIE (Prairie View University), “Response of offshore wind towers,” summer 2011.
 Hasian R. ZAPATA (Polytechnic University of Puerto Rico), “Strength of kaolin clay,” summer 2011.
 Andrea BEATHARD, Spring-Fall 2012.
 Daniel CROCKETT, Summer 2013-2014.

INVITED LECTURES

“Simple shear testing of soils,” invited seminar, Japanese Geotechnical Society, Kyoto Section, Japan, 26 February 2020.
 “The observational method in supported excavations,” invited seminar, Texas A&M University, College Station, USA, 1 November 2019.
 “Performance of biochar-enhanced cement stabilised peat,” Theme Lecture session on Geomaterial Behaviour: Coupled Effects, 7th International Symposium on Deformation Characteristics of Geomaterials, Glasgow, UK, 26 June 2019
 “Simple shear response of soils,” From Materials to Structures: Various Engineering Perspectives A workshop between the University of Cambridge and LabEx MMCD, Paris (France) 20-21 September 2018
 “Monotonic and cyclic lateral loading of wind tower foundations,” Prague Geotechnical Days 2018, Czech and Slovak Society for Soil Mechanics and Geotechnical Engineering, Prague, May 21, 2018.
 “Simple shear testing of soils,” 36th Annual Geo-Engineering Distinguished Lecture Series, University of California, Berkeley, May 4, 2018.
 “Seismic triggering of submarine landslides,” Durham University, January 18, 2018.
 “Undrained sliding resistance of shallow foundations subjected to torsion,” University of California, Berkeley, USA, September 3, 2017.
 “Seismic triggering of submarine landslides,” 2nd International Symposium on Coastal and Offshore Geotechnics (ISCOG 2017), Zhejiang University, Hangzhou, China, July 5-7, 2017
 “Measuring stiffness of soils in situ,” Zhejiang University of Technology, Hangzhou, China, July 5, 2017.
 “Using moodle to support teaching and assessment,” Invited lecture, Cambridge Centre for teaching and Learning, Teaching Forum 2017, Cambridge University, 22 March 2017.
 “Centrifuge testing of offshore wind turbines,” International Symposium on Energy Geotechnics, Technical Committee TC308 of the International Society of Soil Mechanics and Geotechnical Engineering, Universitat Politècnica de Catalunya, Barcelona, Spain, June 2-4, 2015.
 “Measuring stiffness of soils in situ,” 14th International Conference of the International Association for Computer Methods & Advances in Geomechanics, Kyoto, Japan, September 2014.
 “Multi-directional simple shear response of soils,” Japanese Geological Survey, Tsukuba, Japan, January 16, 2013.
 “Plate anchors: plasticity solution and numerical simulation,” Department of Civil Engineering, University of Kyoto, January 11, 2013.
 “Multi-directional simple shear response of soils,” Graduate School of Agriculture, University of Kyoto, Japan, December 28, 2012.

- “Multi-directional simple shear response of soils,” *Geotechnical Seminar*, University of California, Berkeley, November 7, 2012.
- “Estimating shear modulus vs strain from field measurements,” Torres, D.E., Biscontin, G., and Roesset, J.M., *8th International Conference on Urban Earthquake Engineering*, Tokyo, Japan, March 7-8, 2011.
- “Advances in Cyclic Testing and Strength Anisotropy,” GeoAustin 2011, 5th annual geotechnical seminar of the Texas section of the American Society of Civil Engineers (ASCE) and the San Antonio Chapter of the Geo-Institute of the ASCE, Austin, TX, February 11, 2011.
- “Seismic Triggering of Submarine Slides”, Notre Dame University, Department of Civil Engineering and Geological Sciences, South Bend, IN, August 20, 2007.
- “Seafloor-riser interaction model,” International Workshop on Constitutive Modeling - Development, Implementation, Evaluation, and Application, Hong Kong, China, January 12-13, 2007.
- “Seismic Triggering Of Submarine Landslides in Cohesive Sediments - Geotechnical Modeling,” 32nd International Geological Congress, Florence, Italy, August 19-25, 2004.
- “Seismic Triggering of Submarine Slides”, Massachusetts Institute of Technology, Department of Civil Engineering, Boston, MA, February 26, 2003.
- “Seismic Triggering of Submarine Slides” Universita’ degli Studi di Padova, Italy. Dept. of Hydraulic, Ocean and Geotechnical Engineering. June 17, 2002.
- “Seismic Triggering of Submarine Slides,” Universitat Politecnica de Catalunya, Barcelona, Spain. June 5, 2002.

PROFESSIONAL SERVICE

2019-2020	Management Board	<p>International Centre for Advance Materials</p> <p>Centre of excellence in advanced material research sponsored by BP. The board shapes research objectives and reviews research project applications.</p>
2018-2019	Management Board	<p>National Research Facility for Infrastructure Sensing UK Collaboratorium for Research Infrastructure & Cities (NRFIS)</p> <p>Led development of the Geomechanics laboratories through the design and construction phases, including equipment selection, procurement and set up. Represent NRFIS at UKCRIC meetings and workshops.</p>
2015-2019	Vice-Chair	<p>European network for shallow geothermal energy applications in buildings and infrastructures (GABI) TUD COST Action TU1405.</p> <p>The GABI network brings together researchers and industrial partners from over 20 European countries. We are developing guidelines for shallow geothermal applications towards the goal of integration into the Eurocode.</p>
2014-2020	Board	<p>European Network of Large Geotechnical Institutes Platform Represent Cambridge Geotechnics in this group promoting geotechnical engineering research in European contexts. Collaborated in a number of multi-institutional, trans-European EU grant proposals.</p>
2018-2020	Executive Committee	<p>Centre for Smart Infrastructure and Construction</p>

Lead current research and future directions for this signature research centre.

2005- 2020 Board **International Association of Computer Methods and Advances in Geomechanics (IACMAG)**

Editorial

2009-2020 Board **Rivista Italiana di Geotecnica (Italian Geotechnical Journal)**

2020 Guest Editor **International Journal of Geoengineering Case Histories**
Special Issue on Numerical Analysis in Geoengineering Case Histories

2018-2019 Guest Editor **Renewable Energy**
Special Issue on Shallow Geothermal Energy Systems

2015- 2018 Associate Editor **Journal of Geotechnical and Geoenvironmental Engineering,**

2012-2015 Board **Soils and Foundations, Japanese Geotechnical Society**

2007-2014 Board **International Journal of Geomechanics**

2003-2007 Board **Journal of Professional Issues in Engineering Education and Practice**
American Society of Civil Engineers

Technical Committees

2017-2020 Secretary **Technical Committee 103 on Numerical Methods in Geomechanics**
International Society of Soil Mechanics and Geotechnical Engineering

2020-present Corresponding Member

2017-present Corresponding Member **Technical Committee 306 on Geo-engineering education**
International Society of Soil Mechanics and Geotechnical Engineering

2007-2013 Chair **Student and Younger Member Participation Committee**
Board level committee of the Geo-Institute of the ASCE

2005-2007 Chair **Committee on Geotechnics of Soil Erosion**
Geo-Institute of the American Society of Civil Engineers (ASCE)

2003-2005 Secretary **Committee on Geotechnics of Soil Erosion**
Geo-Institute of the American Society of Civil Engineers (ASCE)

Review Panels

10 National Science Foundation (NSF) Proposal Review Panels for the Division of Civil and Mechanical Systems, the Division of Undergraduate Education in the Directorate for Education and Human Resources, and the Office of International Science and Engineering. 2002-2020

3 US Geological Service (USGS) Proposal Review Panels 2011, 2012, 2013

Italian Ministry of Education, University and Research, grant application reviews 2012, 2015

University of Padova, Internal research grants application review 2010, 2012

National Science Foundation (NSF) Ad-hoc Proposal Review for the Division of Civil and Mechanical Systems, usually 2 to 3 per year 2002-present

EPSRC, Ad-hoc Proposal Review 2015, 2017, 2018, 2019

Natural Sciences and Engineering Research Council of Canada, Ad-hoc proposal review 2016, 2019

EPSRC, Member of the College of Reviewers 2017- 2020

Professional reviews (90+)

Canadian Geotechnical Journal

Computer and Geotechnics

Geotechnical Testing Journal, ASTM.

Geotechnique

International Journal of Earth Science

International Journal of Geomechanics

International Journal for Numerical and Analytical Methods in Geomechanics

Journal of Environmental & Engineering Geophysics

Journal of Geophysical Research

Journal of Geotechnical and Geoenvironmental Engineering, ASCE

Journal of Materials in Civil Engineering

Journal of the Japanese Society of Irrigation, Drainage and Reclamation Engineering

Journal of Professional Issues in Engineering Education and Practice, ASCE

Journal of Soil Dynamics and Earthquake Engineering

Marine Geology

Renewable Energy

Review of Geophysics

Rivista Italiana di Geotecnica

Soils and Foundations

Soil Dynamics and Earthquake Engineering

11th International Conference on Soil Dynamics and Earthquake Engineering, 2004

GeoFrontiers, 2004

8th US National Conference on Earthquake Engineering, 2005

American Association of Engineering Education Annual Conference, 2006

International Workshop on Constitutive Modeling -Development, Implementation, Evaluation, and Application

GeoDenver 2007

GeoCongress 2008, 2012

13th International Conference of the International Association for Computer Methods and Advances in Geomechanics (IACMAG 2011), 2011.

5th International Conference on Scour and Erosion, San Francisco 2010.

Geomechanics from Micro to Macro, Cambridge 2014

Frontiers in Offshore Geotechnics III, Oslo 2015

GeoFrontiers 2017

Professional memberships

British Geotechnical Society

Geo-Institute of the American Society of Civil Engineers

American Society of Civil Engineers

International Association for Computer Methods and Advances in Geomechanics (IACMAG)

International Society of Soil Mechanics and Foundation Engineering (ISSMGE)

American Society for Engineering Education (ASEE)

Network for Earthquake Engineering Simulation (NEES)

American Geophysical Union (AGU)

SELECTED ACADEMIC SERVICE

Cambridge University

All committee commitment end in 2019 because of sabbatical leave in the academic year 2019-20.

2018-2019 Member **Language Centre Committee of Management**

Cambridge University - Department of Engineering

2018-2019 Chair **Ethics Committee**

2015-2019 Member

In my short tenure as chair of the Ethics committee I have worked on improving the workflow and developing guidance. The ethics committee has become more visible within the Department.

2018-2019 Chair **Language Unit Committee**

2018-2019 Member **Faculty Board**

2018-2019 Member **Teaching Committee**

2015-2019 Member **Library Committee**

I discussed the impact of the new General Data Protection Regulation (GDPR) on ethical treatment of personal data with Library. The ethics committee review of ‘light touch’ applications now specifically requires the applicant to address treatment of personal information.

2017- 2019 Member **Biosafety Committee**

Membership in a number of committees has allowed me to liaise more easily. For example, I discussed potential ethical issues with biological materials at Biosafety committee meetings.

2014-2016 Secretary **Civil Subject Group (CSEESG)**

2014-2016 Member **Student Staff Joint Committee**

2019-2020 Safety Officer Geomechanics Laboratories
National Facility for Infrastructure Sensing (NRFIS)

2014-present Geotechnical Laboratories Inglis Building

2014-2016 Geotechnical Centrifuge Schofield Centre

2013-present Geotechnical group
Graduate admissions, review of applications

2014-present Senior Treasurer **Cambridge University Geotechnical Society**
(Student-led society)

2017-present Division D representative **Move West Committee**

2015 Member **New Building Committee**

2014 Group Examiner Division D, Part IIB

Emmanuel College

2015-2019	Engineering representative	Research Fellowship Committee
2018-2019	Admissions	Undergraduate admission interviews
2014-2019	Director of Studies	IA Engineering students

Texas A&M University

2012-2013	Member	Faculty Search Committee the Department of Geology and Geophysics College of Geosciences, Texas A&M University
2004	Member	College of Engineering Minority Recruitment Task Force
2003-2007	Member	Women in Engineering Faculty Interest Group Steering Committee
April 2005, March 2006	Panelist	CAREER/Young Investigator Workshop Office of the Vice-President for Research, Texas A&M University,
April 2005, Febr.2006	Panelist	CAREER Workshop Texas Engineering Experiment Station, Strategic Research Development, Texas A&M University
2004-2009	Advisor and Principal Investigator	US-Brazil Consortium for Interdisciplinary Action on Earth Resources and Environmental Issues Reciprocal exchange program with the State University of Campinas, Sao Paulo Brazil

Zachry Department of Civil Engineering

2011-2013	Graduate Advisor	Geotechnical Engineering Group Administrator for admission to the geotechnical graduate program and all graduate student concerns outside research.
2009-2010	Member	Search Committee Department Head of the Zachry Department of Civil Engineering
2009		Assistant Division Head Construction, Geotechnical and Structural Engineering Division
2008-2009	Chair	Departmental Faculty Search Committee Geotechnical Engineering position
2008- 2013	Member	Departmental Tenure and Promotion Committee
2011-2012	Member	Departmental Faculty Search Committees Materials Engineering position
2007-2008		Geotechnical Engineering position
2006-2007		Design and Construction integration position

2004-2005		Construction management position Infrastructure Engineering position
2007-2012		Administrator for CE Notes On-line course management tool for the Department. of Civil Engineering,
2006	Member	Committee on Writing Intensive Courses
2006-2013	Course Coordinator	CVEN 207 “Introduction to the Civil Engineering Profession”
2004-2013		Women in Civil Engineering , Mentoring group for female graduate students
2004, 2009	ABET Course Coordinator	CVEN 207 “Introduction to the Civil Engineering Profession”
2004-2005	Member	Undergraduate Curriculum Committee
	Chair	Soil Mechanics and Foundation Engineering sub-committee
2004	Member	Committee on Students Quality
2004	Member	Committee on Web Site Development
2003-2013	Advisor	Local Students Chapter of the Geo-Institute of the ASCE
2002-2008		Graduate Admissions Reviewed applications for admission to the geotechnical graduate program

OUTREACH ACTIVITIES

4 Nov. 2017	Engineering Masterclass ‘Protecting Venice’
27 Oct. 2018	University of Cambridge Admission Office Subject Masterclasses are subject-specific events that offer academically able students in Year 12 (or equivalent) the chance to experience typical undergraduate teaching at the University of Cambridge, and to get a flavour of what it's like to be a student here.
8 Nov 2017	Faculty of the Future, Schlumberger Foundation
24 Sep. 2016	Alumni Festival Lecture on ‘Protecting Venice’
2008-2013	Southwood Valley Elementary Science and Technology Night Southwood Valley Elementary, College Station, TX
2004, 2006, 2012	E³ Teacher Summer Research Program Hosted two high school math and science teachers during the month of June 2004 and June 2006. The science and mathematics teachers became part of the research team and developed class activities around the research topics explored during the NSF sponsored program.
2004-2006, 2011	Expanding Your Horizons Conference Held the workshop “Highway Overpass Magic-Come Build One”. The conference goal is to expose 6 th grade girls to a variety of career choices in science and engineering through hands-on activities.
2006, 2010	Discover Engineering Conference

- Dwight Look College of Engineering outreach program for high school students, their families and teachers.
- 2003-06 **Buchanan Student Conference**
Member of the organizing committee. The conference included lectures and panels on geotechnical engineering and the importance of graduate education. Both on- and off-campus students were invited. Several of the participants are currently applying for admission at A&M.
- 2002, 2003 **Dwight Look College of Engineering Graduate Fall Invitational**
Recruitment of off-campus graduate students, especially US citizens, underrepresented minorities and women.
- 2000-2001 **Graduate Student Instructors Teaching Conference**
University of California Berkeley
Leader of the engineering cluster workshop. Developed and held a session on effective teaching strategies for engineering classes. Advised the new Graduate Students Instructors on ways to improve their teaching skills.
- 1993-1996 **Coordinator of the student group "Protezione Civili",** Universita' di Padova
Proposed and organized students activities related to civil engineering. Coordinated students' efforts in the development of departmental and college policies.
- 1993-1994 **Elected student representative in the Civil Engineering Council,** Universita' di Padova.
Member of the sub-committees on curriculum issues (with five professors) for the improvement and renewal of the core curriculum and on computer center maintenance and development.

PROFESSIONAL SERVICE – TEACHING

- Invited participant, NSF International Workshop on Education of Future Geotechnical Engineers in Response to Emerging Multi-scale Soil-Environment Problems, University of Cambridge, September 5-6, 2014
- Invited lecture, Teaching Assistants Training Program, Center for Teaching Excellence, Texas A&M University, August 23, 2011.
- Invited lecture, Faculty Teaching Academy, Center for Teaching Excellence, Texas A&M University, October 19, 2007.
- Gender Equity Project, Faculty Learning Community on “Culture of Science and Engineering,” Texas A&M University, Fall 2004.
- Gender Equity Project, Faculty Learning Community on “Personal Vision and Commitment,” Texas A&M University, Summer 2004.
- Invited participant, NSF Workshop for the Advancement and Retention of Underrepresented and Minority Engineering Educators, Arlington, Virginia, September 22-24, 2003
- Participant, “The Multihazard Building Design Summer Institute: Topics in Performance Based Earthquake Engineering” course, organized by the Federal Emergency Management Agency (FEMA) at the National Emergency Training Center, Emmitsburg, Maryland, July 28 - August 1, 2003.
- Faculty Learning Community, Texas A&M University, Fall 2002-Spring 2003
- Invited participant, NSF Faculty Career Development , Tempe Arizona, March 16, 2003.
- Excellence in Civil Engineering Education (ExCEED) Teaching workshop, by the ASCE, Fayetteville, Arkansas, July 14-19, 2002
- Invited participant NSF Workshop, Engineering Educators for the New Millennium, Arlington, Virginia, October 22-24, 2001.

Invited participant, Women Research Engineering Summit (WIRES2), Orlando, FL, March 29-April 1, 2011.

Invited participant, U.S.-Japan symposium “Connections – Bringing Together the Next Generation of Women Leaders in Science, Technology, Engineering and Mathematics”, National Women's Education Center, Saitama, Japan July 5-7, 2010.

Invited participant, International Ocean Drilling Program (IODP) New Ventures in Exploring Scientific Targets (INVEST) 2009, University of Bremen (Germany) September 23-25, 2009

Invited participant, Deformation and Failure of Geomaterials, A Multidisciplinary Workshop, Sponsors: Politecnico di Bari (Italy) and NSF. Masseria Salamanina (Brindisi, Italy), June 14-19, 2009.

Invited participant, International Workshop on Seabed Sediment Pore Pressure: Genesis, Measurement and Implications for Design/Analysis, sponsors: NSF and the International Centre for Geohazards/ Norwegian Geotechnical Institute (ICG/NGI). Oslo (Norway), March 24-25, 2009.

Invited participant, NSF Workshop on Frontier Research Directions in Civil and Environmental Engineering, Washington DC, June 4-5, 2007

Invited participant, NSF Workshop on Model Validation and Benchmarking for Tsunami Generation by Submarine Mass Failure, Honolulu, Hawaii, May 30-31, 2003.

Invited participant, NSF Workshop on the Prediction of Underwater Landslides and Slumps, Los Angeles, California, March 10-11, 2000.

PUBLICATIONS

Books

Geotechnics of Soil Erosion (2007), Geotechnical Special Publication 167, Proceedings of Sessions of Geo-Denver 2007, Biscontin, G. (editor), ASCE, Denver, Colorado, February 18–21, 2007.

Geomechanics from Micro to Macro (2014) Proceedings of the TC105 ISSMGE International Symposium on Geomechanics from Micro to Macro, Soga, K., Kumar, K., Biscontin, G. and Kuo, M. (editors), September 2-5, 2014.

Editorial

“Shallow Geothermal Energy Systems (2020),” Special issue of *Renewable Energy*, editors Tsagarakis, K.P., Biscontin, G. and Sanchez, M., Vol. 147(3), Part 2, 2555-2808. <https://doi.org/10.1016/j.renene.2019.11.147>

Refereed journal articles

** Indicates postdoctoral research associate and * student supervised by Dr. Biscontin

Sorrentino*, G., Gajjar, P., Chellppah, K., Biscontin, G., and Withers, P. (2026) “Filter cake formation and particle invasion: A comparative study of OBM and WBM in wellbore applications,” *Powder Technology*, Vol. 469 (2). <https://doi.org/10.1016/j.powtec.2025.121777>.

Kandasami**, R.K., Konstantinou*, C., and Biscontin, G. (2025) “Development of a fracture capture simulator to quantify the instability evolution in porous medium,” *Journal of Rock Mechanics and Geotechnical Engineering*, online April 2025. <https://doi.org/10.1016/j.jrmge.2025.01.043>.

Sorrentino*, G., Chellppah, K., and Biscontin, G. (2025) “Understanding clogging mechanisms in filter media: An integration of laboratory findings and theoretical perspectives,” *Separation and Purification Technology*, Vol. 359(2). <https://doi.org/10.1016/j.seppur.2024.130602>.

Konstantinou*, C., Kandasami**, R.K., Biscontin, G., and Papanastasiou, P. (2025) “Effects of stress state during fluid injection fracturing experiments in weakly cemented porous media,” *Engineering Fracture Mechanics*, Vol. 319(2). <https://doi.org/10.1016/j.engfracmech.2025.111016>.

Sun*, M. and Biscontin, G. (2025) “Conical Failure Surface of Medium-Dense Hostun Sand in Undrained Multidirectional Simple Shear Tests,” *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 151(2). <https://doi.org/10.1061/JGGEFK.GTENG-10565>.

Konstantinou*, C., Farooq*, H.A., Biscontin, G., and Papanastasiou, P. (2024) “Effects of fluid composition in fluid injection experiments in porous media,” *Journal of Contaminant Hydrology*, Vol.265. <https://doi.org/10.1016/j.jconhyd.2024.104383>.

Sorrentino*, G., Gajjar, P., Withers, P., Chellppah, K., and Biscontin, G. (2024) “Experimental investigation of filter cake deposition under cross-flow and static filtration conditions,” *Chemical Engineering Science*, Vol. 283. <https://doi.org/10.1016/j.ces.2023.119417>.

Wilkes*, C., Kumar**, K., and Biscontin, G. (2023) “Investigating the thixotropic behaviour of Tremie Concrete using the Slump-flow test and the Material Point Method,” *Cement and Concrete Composites*, Vol. 143. <https://doi.org/10.1016/j.cemconcomp.2023.105222>.

Konstantinou*, C., Martinez-Paneda, E., Biscontin, G., and Fleck, N.A. (2023) “Fracture of bio-cemented sands,” *Extreme Mechanics Letters*, Vol. 64. <https://doi.org/10.1016/j.eml.2023.102086>.

Konstantinou*, C., Kandasami**, R.K., Biscontin, G., and Papanastasiou, P. (2023) “Fluid injection through artificially reconstituted bio-cemented sands,” *Geomechanics for Energy and the Environment*, Vol. 34. <https://doi.org/10.1016/j.gete.2023.100466>.

- Sorrentino*, G. and Biscontin, G. (2023) “Improved filtration parameters from modified API filter press,” *Geoenergy Science and Engineering*, Vol. 224, 211605. <https://doi.org/10.1016/j.geoen.2023.211605>.
- Lau*, J.Z., Biscontin, G., and Berti, D. (2023) “Effects of biochar on cement stabilised peat soil,” *Ground Improvement*, Vol. 176(2), 76–87. <https://doi.org/10.1680/jgrim.19.00013>. **This paper received the Institution of Civil Engineers (ICE) Telford Premium, Publishing Award 2024**
- Farooq*, H.A., Kandasami**, R.K., Sorrentino*, G. and Biscontin, G. (2023) “Rupture resistance of filter cake under static filtration using a novel experimental technique,” *Chemical Engineering Science*, Vol. 270, 118508. <https://doi.org/10.1016/j.ces.2023.118508>.
- Konstantinou*, C., Wang, Y. and Biscontin, G. (2023) “A Systematic Study on the Influence of Grain Characteristics on Hydraulic and Mechanical Performance of MICP-Treated Porous Media,” *Transport in Porous Media*, Vol. 147, 305–330. <https://doi.org/10.1007/s11242-023-01909-5>.
- Konstantinou*, C. and Biscontin, G. (2022) “Experimental Investigation of the Effects of Porosity, Hydraulic Conductivity, Strength, and Flow Rate on Fluid Flow in Weakly Cemented Bio-Treated Sands,” *Hydrology*, Vol. 9(11), 190. <https://doi.org/10.3390/hydrology9110190>.
- Gago, P.A., Konstantinou*, C., Biscontin, G., and King, P. (2022) “A numerical characterisation of unconfined strength of weakly consolidated granular packs and its effect on fluid-driven fracture behaviour,” submitted to *Rock Mechanics and Rock Engineering*, Vol. 55, 4565-4575. <https://doi.org/10.1007/s00603-022-02885-w>.
- Loveridge, F., Schellart, A., Rees, S., Stirling, R., Taborda, D., Tait, S., Alibardi, L., Biscontin, G., Shepley, P., Shafagh, I., Shepherd, W., Yildiz, A., Jefferson, B. (2022) “Heat recovery and thermal energy storage potential using buried infrastructure in the UK,” *Proceedings of the Institution of Civil Engineers - Smart Infrastructure and Construction*, Vol. 175(1), 10-26. <https://doi.org/10.1680/jsmic.21.00018>.
- Wang, Y., Konstantinou*, C., Soga, K., Biscontin, G., and Kabla, A.J. (2022) “Use of microfluidic experiments to optimize MICP treatment protocols for effective strength enhancement of MICP-treated sandy soils,” *Acta Geotechnica*, Vol. 17, 3817-3838. <https://doi.org/10.1007/s11440-022-01478-9>.
- Konstantinou*, C., Kandasami**, R., Wilkes*, C., and Biscontin, G. (2021) “Fluid injection under differential confinement,” *Transport in Porous Media*, Vol. 139, 627-650. <https://doi.org/10.1007/s11242-021-01692-1>.
- Konstantinou*, C., Biscontin, G., and Logothetis, F. (2021) “Tensile strength artificially cemented sandstone generated via microbially induced carbonate precipitation,” *Materials*, Section Biomaterials, Vol.14(16), 4735, <https://doi.org/10.3390/ma14164735>.
- Jin*, Y., Biscontin, G., and Gardoni, P. (2021) “Adaptive prediction of wall movement during excavation using Bayesian inference,” *Computers and Geotechnics*, Vol.137 (9) <https://doi.org/10.1016/j.compgeo.2021.104249>.
- Bernhardt-Barry*, M.L., Biscontin, G., and O'Sullivan, C. (2021) “Particle-scale observations of kinematics and stress transmission in a laminar simple shear device,” *Granular Matter*, Vol.23(55). <https://doi.org/10.1007/s10035-021-01118-1>.
- Berti, D., Lau*, J.Z., and Biscontin, G. (2021) “Effect of biochar filler on the hydration products and microstructure in Portland cement-stabilized peat,” *Journal of Materials in Civil Engineering*, Vol.33(10). [https://doi.org/10.1061/\(ASCE\)MT.1943-5533.0003885](https://doi.org/10.1061/(ASCE)MT.1943-5533.0003885)
- Konstantinou*, C., Wang, Y., Biscontin, G., and Soga, K (2021) “The role of bacterial urease activity on the uniformity of carbonate precipitation profiles on bio-treated coarse sand specimens,” *Scientific Reports*, 11(6161). <https://doi.org/10.1038/s41598-021-85712-6>.

- Konstantinou*, C., Biscontin, G., Jiang**, N., and Soga, K. (2021) “Application of microbially induced carbonate precipitation to form bio-cemented artificial sandstone,” *Journal of Rock Mechanics and Geotechnical Engineering*, Vol.13(3), 579-592. <https://doi.org/10.1016/j.jrmge.2021.01.010>.
- Gago, P.A., Konstantinou*, C., Biscontin, G., and King, P. (2020) “Stress inhomogeneity effect on fluid-induced fracture behaviour into weakly consolidated granular systems,” *Physical Review E*, Vol. 102(4), 04090 (5 pages). <https://doi.org/10.1103/PhysRevE.102.040901>
- Murali*, M., Grajales-Saveedra*, F.J., Beemer*, R.D., Aubeny, C.P., and Biscontin, G. (2019) “Capacity of short piles and caissons from geotechnical centrifuge tests,” *Journal of Geotechnical and Geoenvironmental Engineering* Vol.145(10), [https://doi.org/10.1061/\(ASCE\)GT.1943-5606.0002091](https://doi.org/10.1061/(ASCE)GT.1943-5606.0002091).
- Beemer*, R.D., Biscontin, G., and Aubeny, C.P. (2019) “Centrifuge 2D gravity on a vertical rotational reference frame,” *International Journal of Physical Modelling in Geotechnics*, Vol. 19(1), 15-26. <https://doi.org/10.1680/jphmg.16.00055>.
- Jin* Y, Biscontin, G., and Gardoni, P. (2018) “A Bayesian definition of ‘most probable’ parameters,” *Geotechnical Research*, Vol. 5(3), 130-142. <https://doi.org/10.1680/jgere.18.00027>.
This paper received the Institution of Civil Engineers (ICE) Telford Premium, Publishing Award 2019
- Hardy, S., Nicholson, D.P., Ingram, P., Gaba, A., Chen*, Y., and Biscontin, G. (2018) “New observational method framework for embedded walls,” *Geotechnical Research*, Vol.5(3), 122-129. <https://doi.org/10.1680/jgere.18.00013>.
- Beemer*, R.D., Biscontin, G., Murali*, M., and Aubeny, C.P. (2018) “Use of a MEMS accelerometer to measure orientation in a geotechnical centrifuge,” *International Journal of Physical Modelling in Geotechnics*, Vol. 18(5), 253-265. <https://doi.org/10.1680/jphmg.16.00077>.
- Nouri*, H., Biscontin, G., and Aubeny, C.P. (2018) “Effect of combined translation and torsion on undrained uplift capacity of plate anchors: plastic limit analysis (PLA) solution,” *International Journal for Numerical and Analytical Methods in Geomechanics*. Vol. 42(14), 1567-1591. <https://doi.org/10.1002/nag.2791>.
- Nouri*, H., Biscontin, G., and Aubeny, C.P. (2017) “Numerical prediction of undrained response of plate anchors under combined translation and torsion,” *Computer and Geotechnics*, Vol. 81, 39-48. <https://doi.org/10.1016/j.compgeo.2016.07.008>.
- Bernhardt*, M.L., Biscontin, G., and O’Sullivan, C. (2016) “Experimental validation study of 3D direct simple shear DEM simulations,” *Soils and Foundations*, Vol. 56(3), 336-347. <https://doi.org/10.1016/j.sandf.2016.04.002>.
- Chen*, Y., Nicholson, D., Ingram, P., Hardy, S., Liong Liew, H., Farooq, I., and Biscontin, G. (2015) “Crossrail Lessons: Application of the Observational Method on Crossrail projects,” *Ground Engineering*, December 21, 2015.
- Zhang, Y., Bernhardt*, M.L., Biscontin, G., Luo, R., and Lytton, R.L. (2015) “A generalized Drucker-Prager viscoplastic yield surface model for asphalt concrete,” *Materials and Structures*, Vol. 48(11), 3585-3601. <http://doi.org/10.1617/s11527-014-0425-1>.
- Nouri*, H., Biscontin, G., and Aubeny, C.P. (2014) “Undrained sliding resistance of shallow foundations subject to torsion,” *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 140(8). [http://doi.org/10.1061/\(ASCE\)GT.1943-5606.0001138](http://doi.org/10.1061/(ASCE)GT.1943-5606.0001138).
- Rutherford*, C.J. and Biscontin, G. (2013) “Development of a multi-directional simple shear testing device”, *Geotechnical Testing Journal*, Vol. 36(6). <https://doi.org/10.1520/GTJ20120173>.
- Kitajima*, H, Chester, F.M., and Biscontin, G. (2012) “Mechanical and hydraulic properties of Nankai accretionary prism sediments: effects of stress path,” *Geochemistry Geophysics Geosystems*, 13(1), Q0AD27. <https://doi.org/10.1029/2012GC004124>.

- Ahn*, J., Biscontin, G., and Roësset, J.M. (2011) “Natural frequency and damping ratio of a vertically vibrated surface foundation,” *Soil Dynamics and Earthquake Engineering*, Vol. 31(4), 674-681. <https://doi.org/10.1002/nag.759>.
- Lanzo, G., Di Capua, G., Kayen, R.E., Kieffer, D.S., Button, E., Biscontin, G., Scasserra, G., Tommasi, P., Pagliaroli, A., Silvestri, F., d’Onofrio, A., Violante, C., Simonelli, A.L., Puglia, R., Mylonakis, G., Athanasopoulos, G., Vlahakis, V., Stewart J.P. (2010) “Seismological and geotechnical aspects of the $M_w=6.3$ l’Aquila earthquake in central Italy on 6 April 2009,” *International Journal of Geoengineering Case Histories*, Vol. 1(4), 206-339.
- Jung*, B.-C., Biscontin, G., Gardoni, P. (2009) “Bayesian updating of a unified soil compression model,” *Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards*, Vol. 3(2), 87 - 96
- Ahn*, J., Biscontin, G., and Roësset, J.M. (2009) “Wave propagation velocity under a vertically vibrated surface foundation,” *International Journal for Numerical and Analytical Methods in Geomechanics*, 33(9), 1153-1167.
- Aubeny, C.P. and Biscontin, G. (2009) “Seafloor-Riser Interaction Model,” *International Journal of Geomechanics*, Vol. 9(3), 133-141.
- Ahn*, J., Biscontin, G., and Roësset, J.M. (2009) “Wave Propagation in Nonlinear One-Dimensional Soil Model,” *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 33(4), 487-509.
- Aubeny, C. P., and Biscontin, G. (2008) “Interaction Model for Steel Compliant Riser on Soft Seabed,” *SPE Projects, Facilities & Construction*, Society of Petroleum Engineers, (6 pages). <https://doi.org/10.2118/120077-PA>.
- Jung*, B.C., Gardoni, P., and Biscontin, G. (2008) “Probabilistic Soil Identification Based on Cone Penetration Tests,” *Geotechnique*, Vol. 58(7), 591-603.
- Rutherford*, C.J., Briaud, J.-L., Biscontin, G. and Koutsoftas, D. (2007) “Deep Soil Mixing for Excavation Support,” *International Journal of Geoengineering Case Histories*, Vol. 1(2), 54-72.
- Biscontin, G., Cola, S., Pestana, J.M. and Simonini, P. (2007) “A Unified Compression Model for the Venice Lagoon Natural Silts,” *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 133(8), 932-342. [https://doi.org/10.1061/\(ASCE\)1090-0241](https://doi.org/10.1061/(ASCE)1090-0241).
- Biscontin, G. and Pestana, J.M. (2006) “Factors Affecting the Seismic Response of Submarine Landslides in Soft Cohesive Soil Deposits,” *Natural Hazards and Earth System Sciences*, Vol. 6(1), 97-107.
- Biscontin, G., Pestana, J.M., Nadim, F. and Andersen, K. (2004) “Seismic Triggering of Submarine Landslides in Soft Cohesive Soil Deposits”, *Marine Geology*, Vol. 203(3-4), 341-354. [https://doi.org/10.1016/S0025-3227\(03\)00314-1](https://doi.org/10.1016/S0025-3227(03)00314-1).
- Biscontin, G. and Pestana, J.M. (2001) “Influence of Peripheral Velocity on Measurements of Undrained Shear Strength for an Artificial Soil,” *Geotechnical Testing Journal*, Vol. 24(4), 423-429.
- Pestana, J.M., Biscontin, G., Nadim, F. and Andersen, K. (2000) “Modeling Cyclic Behavior of Lightly Overconsolidated Clays in Simple Shear,” *Soil Dynamics and Earthquake Engineering*, 19, 501-519.

Peer-reviewed conference proceedings

** Indicates postdoctoral research associate and * student supervised by Dr. Biscontin

Konstantinou*, C. and Biscontin, G. (2022) “Soil enhancement via microbially induced calcite precipitation,” *Geotechnical Aspects of Underground Construction in Soft Ground*, Proceedings of the 10th International

Symposium on Geotechnical Aspects of Underground Construction in Soft Ground, Eds.Elshafie, Viggiani, Mair, IS-Cambridge 2022, Cambridge, United Kingdom, 27-29 June 2022.

Konstantinou*, C., Biscontin, G. and Papanastasiou, P. (2022) “Interpretation of Fluid Injection Experiments in Poorly Consolidated Sands,” 56th US Rock Mechanics/Geomechanics Symposium, Santa Fe, New Mexico, USA, June 2022. ARMA-2022-0632. <https://doi.org/10.56952/ARMA-2022-0632>.

Alhaj**, K.M.A., Biscontin, G., Elshafie, M.Z.E.B., and Osman, A.S. (2020) 4th European Conference on Unsaturated Soils (E-UNSAT2020), Lisboa, Portugal, 24-26 JUNE 2020.

Konstantinou*, C. and Biscontin, G. (2020) “Soil enhancement via microbially induced calcite precipitation,” 10th International Symposium on Geotechnical Aspects of Underground Construction in Soft Ground, Cambridge, UK, 29-30 June 2020.

Alhaj**, K.M.A., Biscontin, G., Elshafie, M.Z.E.B., and Osman, A.S. (2019) “Soil water retention curves representing tropical clay soils from Africa,” 17th African Regional Conference on Soil Mechanics and Geotechnical Engineering (17th ARCSMGE), South Africa, 7-9 October 2019.

Chen*, Y., Nicholson, D.P., and Biscontin, G. (2019) “Reassessment of Crossrail Tottenham Court Road station excavation design using the observational method optimistic approach A,” International Conference on Smart Infrastructure and Construction (ISIC), Cambridge, UK, 8-10 July 2019. <https://doi.org/10.1680/icsic.64669.437>.

Sun*, M. and Biscontin, G. (2019) “The development of shear strain in undrained multi-directional simple shear tests,” 7th International Conference on Earthquake Geotechnical Engineering (VII ICEGE), Silvestri, F. and Moraci, N. Eds., Roma, Italy, 17-20 June 2019. <https://doi.org/10.1201/9780429031274>

Chen*, Y., Pillai, A.K., Nicholson, D.P., and Biscontin, G. (2018) “Back-analysis Crossrail deep excavation using 3D FE modelling -Development of BRICK parameters for London Clay,” 9th Conference on Numerical Methods in Geotechnical Engineering (NUMGE), Porto, Portugal, 25-27 June 2018.

Nouri* H., Rutherford C.J., and Biscontin G. (2018) “Cyclic Multi-directional response of clay deposits: evaluating a constitutive model,” 5th Geotechnical Earthquake Engineering and Soil Dynamics Conference (GEESD V), Austin, TX, June 10-13, 2018.

Sun*, M. and Biscontin, G. (2018) “Development of pore pressure and shear strain in clean Hostun sand under multi-directional loading paths,” GeoShanghai International Conference, Shanghai, China, May 27-30, 2017.

Hardy, S., Nicholson, D., Ingram, P., Gaba, A., Chen*, Y., and Biscontin, G. (2017) “New observational method framework and application ,” Proceedings of the 19th International Conference on Soil Mechanics and Geotechnical Engineering, Seoul, South Korea, September 17-21, 2017.

Murakami, A., Biscontin, G., Uzuoka, R. (2017) “General report of TC103 numerical methods in geomechanics,” Proceedings of the 19th International Conference on Soil Mechanics and Geotechnical Engineering, Seoul, South Korea, September 17-21, 2017.

Nouri*, H. and Biscontin, G. (2017) “Cyclic response of clay deposits: developing a constitutive model, ” 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering (PBD-III), Vancouver, BC, Canada, July 16-19, 2017.

Hein*, K. Biscontin, G., Grajales*, F.J., Aubeny, C.P. and Beemer*, R.D. (2017) “Exploring the lateral capacity of squat piles in soft clay through geotechnical centrifuge modelling,” OCEANS, Conference of the IEEE Oceanic Engineering Society and the Marine Technology Society, Aberdeen, UK, 19-22 June, 2017.

Beemer*, R.D., Murali*, M., Biscontin, G., and Aubeny, C.P. (2016) “Rotational behavior of squat monopiles in soft clay from centrifuge experiments,” Geo-Chicago 2016: Sustainability, Energy, and the Geoenvironment, Chicago, Illinois, USA, August 14-16, 2016.

- Beemer*, R.D., Shaughnessy, E., Ewert, K.R., Boardman, N., Biscontin, G., Aubeny, C.P., and Grajales*, F.J. (2016) “The Use of Sodium Pyrophosphate to Improve a Translucent Clay Simulate,” *Geo-Chicago 2016: Sustainability, Energy, and the Geoenvironment*, Chicago, Illinois, USA, August 14-16, 2016.
- Grajales*, F.J., Beemer*, R.D., Murali*, M., Aubeny, C.P. and Biscontin, G. (2015) “Response of short monopiles for offshore wind turbine foundations: virgin and post-cyclic capacity,” *68th Canadian Geotechnical Conference (GeoQuebec)*, Quebec City, Canada, September 23-23, 2015.
- Murali*, M. Biscontin, G., and Aubeny, C.P. (2015) “Soil strength from geophysical measurements for soft clays,” *The Twenty-fifth International Offshore and Polar Engineering Conference (ISOPE 2015)*, Kona, Big Island, Hawaii, USA, June 21-26, 2015
- Murali*, M., Grajales*, F.J., Beemer*, R.D., Biscontin, G., and Aubeny, C.P. (2015) “Centrifuge and numerical modeling of monopiles for offshore wind towers installed in clay,” *Proceedings of the ASME 2015 34th International Conference on Ocean, Offshore and Arctic Engineering (OMAE 2015)*, St. John’s, Newfoundland, Canada, May 31-June 5, 2015
- Beemer*, R.D., Murali*, M., Biscontin, G. and Aubeny, C.P. (2015) “Theory on measuring orientation with MEMS accelerometers in a centrifuge,” *The International Foundations Congress and Equipment Expo 2015 (IFCEE)*, San Antonio, Texas, USA, March 17-21, 2015.
- Biscontin, G. and Ahn*, J. (2014) “Measuring stiffness of soils in situ,” *14th International Conference of the International Association for Computer Methods & Advances in Geomechanics*, Kyoto, Japan, September 2014.
- Bernhardt*, M.L., O’Sullivan, C., and Biscontin, G. (2014) “Effects of sample preparation methods in DEM,” *Geomechanics from Micro to Macro*, Soga et al. eds, Cambridge UK, September 2014.
- Murali*, M. and Biscontin, G. (2014) “Geotechnical characterization of Gulf of Mexico clay,” *33rd International Conference on Ocean, Offshore and Arctic Engineering*, San Francisco, California, USA, June 8–13, 2014.
- Bernhardt*, M.L., Biscontin, G., and O’Sullivan, C. (2014) “3D Discrete Element Method Simulations of a Laminar-type Simple Shear Apparatus,” *Geo-Congress 2014, Geo-Characterization and Modeling for Sustainability*, Atlanta, GA, February 23-26, 2014.
- Zhang, Y., Bernhardt*, M.L., Biscontin, G., Luo, R., and Lytton, R.L. (2014) “Development and Validation of a generalized viscoplastic yield surface model for asphalt concrete,” *Transportation Research Board 93rd Annual Meeting*, Washington, DC, January 12-16, 2014.
- Nouri*, H., Biscontin, G., and C.P. Aubeny (2012). “Numerical analysis of shallow foundations under combined horizontal and torsional loading,” *Geo-Congress 2012*, Oakland, CA, March 25-29, 2012.
- Bernhardt, M. L., O’Sullivan, C., and Biscontin, G. (2012). “Macro- and micro-scale effects of pluviation based sample preparation in DEM,” *Geo-Congress 2012*, Oakland, CA, March 25-29, 2012.
- Nouri*, H., Biscontin, G., and Aubeny, C.P. (2011). “Numerical simulation of plate anchors under combined translational and torsional undrained loading,” *13th International Conference of the International Association for Computer Methods and Advances in Geomechanics (IACMAG 2011)*, Melbourne, Australia, May 2011.
- Nouri*, H., Biscontin, G., and Aubeny, C.P. (2011). “Plastic limit solution for the response of plate anchors under combined translational and torsional undrained loading,” *21st Annual International Offshore and Polar Engineering Conference: ISOPE2011*, Maui, Hawaii, June 2011.
- Park*, J.-K., Gardoni, P., and Biscontin, G. (2011) “A Bayesian framework to predict deformations during supported excavations based on a semi-empirical method,” *Proceedings of the 11th International Conference on Applications of Statistics and Probability in Civil Engineering*, 1240—1247, Zurich, Switzerland, August 2011.

- Park*, J.-K., Gardoni, P., and Biscontin, G. (2011) “Reliability Analysis of Deep Excavation based on an adaptive Bayesian Semi-empirical Method,” *GeoRisk 2011 – Risk Assessment and Management in Geoengineering*, 568-577, Atlanta, GA
- Park*, J.-K., Gardoni, P., and Biscontin, G. (2011) “ A Bayesian framework to predict deformations during supported excavations based on a semi-empirical method,” *International Conference on Vulnerability and Risk Analysis and Management (ICVRAM)*, Ed. Bilal M. Ayyub, 533-540, and *ISUMA 2011 Fifth International Symposium on Uncertainty Modeling and Analysis*, 533-540, ASCE, Maryland, USA.
- Park*, J.-K., Gardoni, P., and Biscontin, G. (2010) “Estimation of Soil Properties and Deformations in Staged Constructions based on MCMC method,” *GeoFlorida 2010*, West Palm Beach, FL, 20-24 February 2010.
- Jung*, B.-C., Gardoni, P., Biscontin, G. (2009). “Reliability Analysis of Differential Settlements Applied to Venice Soils.” *Proceedings of the 10th International Conference on Structural Safety and Reliability (ICOSSAR)*, Osaka, Japan, September 2009.
- Park*, J., Gardoni, P., and Biscontin, G., (2009). “Bayesian Statistical Framework for the Estimation of Soil Properties and Deformations during Supported Excavations.” *Proceedings of the 10th International Conference on Structural Safety and Reliability (ICOSSAR)*, Osaka, Japan, September 2009.
- Ahn*, J., Biscontin, G., and Roësset, J.M. (2008) “Estimation of in situ shear modulus as a function of level of shear strain,” *Fourth International Symposium on Deformation Characteristics of Geomaterials*, 22-24 September 2008, Atlanta, GA.
- Aubeny, C.P. and Biscontin, G., (2008) “Interaction Model for Steel Compliant Riser on Soft Seabed,” *Offshore Technology Conference*, OTC paper No. 19493, Houston, TX, 5-8 May 2008.
- You*, J., Biscontin, G., and Aubeny, C.P. (2008) “Seafloor Interaction with Steel Catenary Risers,” *International Offshore and Polar Engineering Conference*, Vancouver, Canada, July 2008.
- Ahn*, J., Biscontin, G., and Roësset, J.M. (2008) “Wave Propagation under Vertically Excited Surface Foundation,” *Geotechnical Earthquake Engineering and Soil Dynamics IV*, May 18-22, 2008 in Sacramento, CA.
- Nadim, F., Biscontin, G., and Kaynia, A.M. (2007) “Seismic Triggering of Submarine Slides,” *Offshore Technology Conference*, OTC Paper Number 18911, Houston, Texas, May 2007.
- Ahn*, J., Biscontin, G., and Roësset, J.M. (2007) “Determination of average dynamic properties for vertically excited surface foundation,” *Proceedings 4th International Conference on Earthquake Geotechnical Engineering*, Thessaloniki, Greece, June 2007.
- Aubeny, C.P. and Biscontin, G. (2007) “Seafloor-riser interaction model,” *Proceedings International Workshop on Constitutive Modeling – Development, Implementation, Evaluation, and Application*, Hong Kong, China, January 2007.
- Ahn*, J., Biscontin, G., and Roësset, J.M. (2007) “Wave propagation of sinusoidal excitation in nonlinear one-dimensional soil column,” *Proceeding of GeoDenver 2007*, Denver, Colorado, February 2007.
- Jung*, B.-C., Biscontin, G., and Gardoni, P. (2007) “Probabilistic and reliability analysis of differential settlements applied to Venice soils,” *Proceedings of the 10th International Conference on Applications of Statistics and Probability in Civil Engineering*, Tokyo, Japan, August 2007.
- Rutherford*, C.J., Biscontin, G., Koutsoftas, D., and Briaud, J.-L. (2006) “Numerical Modeling of Deep Soil Mixing Excavation Support,” *Proceedings of the Atlanta GeoCongress*, Atlanta, Georgia, February 2006.
- Jung*, B.-C. and Biscontin, G. (2006) “Modeling Strain Rate Effects on Clay in Simple Shear,” *Proceedings of the Atlanta GeoCongress*, Atlanta, Georgia, February 2006.
- Rutherford*, C.J., Biscontin, G. and Briaud, J.-L. (2005) “Deformation Predictions Based on Estimations of Soil Cement Modulus and Flexural Stiffness,” *Proceedings of the 11th International Conference on Computer Methods and Advances in Geomechanics*, Torino, Italy, June 2005.

- Biscontin, G. and Pestana, J.M (2005) “Modeling of Soft Clays Response For Seismic Triggering of Submarine Slides,” Calibration Of Constitutive Models, *Geotechnical Special Publication No. 139*, J.A. Yamamuro and V.N. Kaliakin, eds., ASCE, Reston, Va.
- Rutherford*, C.J., Biscontin, G. and Briaud, J.-L. (2004) “Deep Mixing for Excavation Support: Design Issues,” *Proceedings of Geo-Trans*, Los Angeles, California, July 2004.
- Biscontin, G., Pestana, J.M (2003) “Seismic Response of Submarine Slopes,” *Proceedings of the 22nd Conference on Offshore Mechanics and Arctic Engineering*, Cancun, Mexico, June 2003.
- Biscontin, G., Pestana, J.M., Cola, S. and Simonini, P. (2001) “Influence of Grain Size on the Compressibility of Venice Lagoon Soils,” *Proceedings of the XV International Conference on Soil Mechanics and Geotechnical Engineering*, Istanbul, Turkey, August 2001, Vol. 4, 2801-2804.
- Biscontin, G. and Pestana, J.M. (2001) “A Simplified Model Describing the Cyclic Behavior of Lightly Overconsolidated Clays in Simple Shear,” *Proceedings of the 10th International Conference on Computer Methods and Advances in Geomechanics*, Tucson, Arizona, January 2001, Vol. 1, 309-314.

Other Conference Publications

** Indicates postdoctoral research associate and * student supervised by Dr. Biscontin

- Konstantinou* C., Biscontin G. (2020) “Microbially induced carbonate precipitation as an alternative technique of assessing cemented material’s properties,” *1st International Conference on Microbial Biotechnology in Construction Materials and Geotechnical Engineering*, Nanjing, China. 16-18 August 2020.
- Konstantinou* C., Biscontin G. (2019) “The mechanics of bio-cemented sands,” Poster at the *Engineering Mechanics Institute (EMI) conference*, Pasadena, USA, 18-21 June 2019.
- Kumar**, K., Salmond, J., Kularathna, S., Wilkes*, C., Tjung, E., Biscontin, G., and Soga, K. (2019) “Scalable and modular material point method for large scale simulations,” *2nd International Conference on the Material Point Method for Modeling Soil-Water-Structure Interaction*, Cambridge, UK, January 7-9, 2019.
- Konstantinou* C., Biscontin G. (2018). “Water injection into soft sands. Artificial specimens’ mechanical properties,” Poster session presented at 3rd Edwards Symposium, New Horizons in Soft Matter, Cambridge, UK, 5-7 September 2018.
- Chen*, Y., Nicholson, D., Ingram, P., Hardy, S., Liong Liew, H., Farooq,I., and Biscontin, G. (2015) “Application of the Observational Method on Crossrail projects,” *Crossrail Lesson Learnt Conference*, London City Hall, London, UK, November 10, 2015.
- Murali*, M., Grajales*, Biscontin, G., and Aubeny, C.P. (2015) “Centrifuge testing of offshore wind turbines,” *International Symposium on Energy Geotechnics, Technical Committee TC308 of the International Society of Soil Mechanics and Geotechnical Engineering*, Universitat Politecnica de Catalunya, Barcelona, Spain, Juen 2-4, 2015.
- Torres*, D.E., Biscontin, G., and Roesset, J.M. (2011) “Estimating shear modulus vs strain from field measurements,” *8th International Conference on Urban Earthquake Engineering*, Tokyo, Japan, March 7-8, 2011.
- Ahn*, J., Biscontin, G. and Gabr, M. (2010) “A Framework to evaluate moduli of geotechnical materials in large-scale tests,” International Workshop on Multiscale and Multiphysics Processes in Geomechanics, R.I. Borja, E.M. Dunham, E. Kuhl and J.A. White (Eds).Stanford University Campus, June 23-25, 2010
- Rutherford*, C. J. and Biscontin, G. (2009) “Multi-directional Simple Shear Response of Gulf of Mexico Clays,” *4th International Symposium on Submarine Mass Movements and Their Consequences*, Austin, Texas Nov. 7-11, 2009.

- Bukhair*, C.L., Thomas*, T., Rutherford*, C. J. and Biscontin, G. (2009) "Slope Stability for Submarine Clays: Consolidation Testing," *4th International Symposium on Submarine Mass Movements and Their Consequences*, Austin, Texas Nov. 7-11, 2009.
- Rutherford*, C. J. and Biscontin, G. (2008) "Multi-directional simple shear testing of fine-grained marine sediments," *33rd International Geological Congress*, Oslo, Norway, August 6-14, 2008.
- Ahn* J., Biscontin G., Roësset J.M. (2008) "An inverse analysis framework and its application on determination of linear and nonlinear shear moduli of soils in situ," *GeoTechnical, GeoPhysical & GeoEnvironmental Engineering Tech. Transfer Conference & Exposition*, Charlotte, NC, April 2008.
- Morgan, J., Barroso, L.R. and Biscontin, G. (2007) "Multiple Models for Civil Engineering Dynamics (Mmced)," *2007 ASEE Annual Conference & Exposition "Riding the Wave to Excellence in Engineering Education"*, AC 2007-3081, Honolulu, Hawaii, June 24-27, 2007.
- Stokoe K.H. II, Park K., Menq F.-Y., Biscontin G., Roësset J.M., Barroso L.R., and Ahn* J. (2006) "NEESR-II: In situ determination of soil modulus and damping as a function of level of strain – Preliminary results of field experiments," *NEES Exhibit at 8th National Conference on Earthquake Engineering*, April 2006.
- Biscontin, G. and Pestana, J.M. (2005) "Multi-Directional Simple Shear Response of Soft Marine Clays," *2nd Int. Conference on Submarine Mass Movements and Their Consequences*, Oslo, Norway, September 2005.
- Barroso, L.R. and Biscontin, G. (2004) "A Project-Based Integrated Curriculum for Civil Engineers," *Proceedings of the 2004 International Conference on Engineering Education*, University of Florida, Gainesville, Florida. October 16-12, 2004.
- Biscontin, G. (2004) "Seismic Triggering of Submarine Landslides in Cohesive Sediments - Geotechnical Modeling," T11.15 (115), *Proceedings of the 32nd International Geological Congress*, Florence, Italy, August, 2004.
- Jung*, B.C., Biscontin, G. (2004) "Factors Affecting the Seismic Response of Submarine Slopes," T15.04 (323), *Proceedings of the 32nd International Geological Congress*, Florence, Italy, August, 2004.
- Biscontin, G., Pestana, J.M (2003) "Influence of Soil Properties on the Seismic Failure of Submarine Slopes," *Geophysical Research Abstracts*, Vol. 5, 07953.
- Tappin, D.R., Watts, P., Grilli, S.T., Biscontin, G., Pestana, J.M., and Matsumoto, T. (2003) "The 1998 PNG Tsunami: Multidisciplinary Evidence on its Architecture and Run-up Effects – pathways to predictions?," *Geophysical Research Abstracts*, Vol. 5, 08933.
- Biscontin, G., Pestana, J.M (2002) "Seismic Response of Submarine Slopes," *Eos Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract OS51A-0139.
- Biscontin, G., Pestana, J.M (2001) "Seismic Stability of Submarine Slopes," *Eos Trans. AGU*, 82(47), Fall Meet. Suppl., Abstract H32A-0296.
- Biscontin, G., Pestana, J.M., Nadim, F. and Andersen, K. (2001) "Seismic Response of Normally Consolidated Cohesive Soil in Gently Inclined Submerged Slope," *Proceedings of the 4th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*. San Diego, California, March 2001.
- Pestana, J.M. and Biscontin, G. (2000) "Effect of Evolving Anisotropy in the Undrained Response of Clays," *Proceedings for the 8th International Symposium on Plasticity*.

Research Reports and Other Publications

** Indicates postdoctoral research associate and * student supervised by Dr. Biscontin

- Biscontin, G., and Jin*, Y. (2018) “Adaptive design of supported excavations,” Report for the Centre for Digital Built Britain, University of Cambridge, March 2018.
- Aubeny, C.P, Biscontin, G., Huang, J., Bin-Shafique, S., Dantal*, V.S. and Sadat, R. (2014) “Design Parameters and Methodology for Mechanically Stabilized Earth (MSE) Walls,” Texas Department of Transportation Report, FHWA/TX-14/0-6716-1
- Stewart, J.P. et al. (2009) “Preliminary Report on the Seismological and Geotechnical Aspects of the April 6 2009 L'Aquila Earthquake in Central Italy,” Report of the National Science Foundation-Sponsored GeoEngineering Extreme Events Reconnaissance (GEER) Team, GEER Association Report No. GEER-016.
- Aubeny, C. P. and Biscontin, G. (2006) “Seafloor Interaction with Steel Catenary Risers,” *Offshore Technology Research Center Report No. 9/06A17*, Texas A&M University, College Station, Texas, 37 pages.
- Rutherford* C.J., Biscontin G., Briaud J.-L. (2004) “Design Manual for Excavation Support using Deep Mixing Technology,” *Research Report, Zachry Department of Civil Engineering, Texas A&M University, College Station, Texas*, 189 pages.
- Pestana, J.M., Biscontin, G., Simonini, P., and Cola, S. (2004) “Compressibility of natural Venice silts,” *University of California Berkeley, GeoEngineering Research Report No. UCB/GE/2004-0*, University of California, Berkeley, California.
- Biscontin, G. (2001) “Modeling the Dynamic Behavior of Lightly Overconsolidated Soil Deposits on Submerged Slopes,” *Ph.D. Thesis*, University of California, Berkeley, California.
- Pestana, J.M. and Biscontin, G. (2000) “A Simplified Model Describing the Cyclic Behavior of Lightly Overconsolidated Clays in Simple Shear,” *University of California Berkeley, Geotechnical Engineering Report No UCB/GT/00-03*, University of California, Berkeley, California.
- Biscontin, G. and Pestana, J.M. (1999) “Influence of Peripheral Velocity on Measurements of Undrained Shear Strength for an Artificial Soil,” *University of California Berkeley, Geotechnical Engineering Report No UCB/GT/99-19*, University of California, Berkeley, California.
- Biscontin, G. (1997) “Rigidezza a Piccole e Medie Deformazioni delle Formazioni Coesive della Laguna di Venezia”, *Thesis*, Università degli Studi di Padova, Facoltà di Ingegneria, Istituto di Costruzioni Marittime e Geotecnica.