

Curriculum Vitae
August 12, 2011

Laureano R. Hoyos, Ph.D., P.E.
Department of Civil Engineering

Professional Education

- Post-Doctoral Research Fellow. *Louisiana State University, Baton Rouge, Louisiana*
Aug 1999 – Dec 1999, Department of Civil & Environmental Engineering
- Post-Doctoral Research Fellow. *Georgia Institute of Technology, Atlanta, Georgia*
Jan 1999 – July 1999, School of Civil & Environmental Engineering
- Ph.D. Civil & Environmental Engineering. *Georgia Institute of Technology, Atlanta, Georgia*
December 1998, School of Civil & Environmental Engineering
- M.S. Civil & Environmental Engineering. *Georgia Institute of Technology, Atlanta, Georgia*
June 1996, School of Civil & Environmental Engineering
- M.S. Geotechnical Engineering. *University of Puerto Rico (UPR-RUM), Mayaguez, Puerto Rico*
December 1993, Department of Civil Engineering
- M.S. Highway Engineering. *Universidad del Cauca, Popayán, Colombia*
December 1991, Department of Civil Engineering
- B.S. Civil Engineering (Honors). *Corporación Universitaria de la Costa, Barranquilla, Colombia*
December 1988, Department of Civil Engineering

Dissertation and Theses Authored

1. Hoyos, L.R. (1998). "Experimental and computational modeling of unsaturated soil behavior under true triaxial stress states." Ph.D. Dissertation, Georgia Institute of Technology, Atlanta, Georgia, 352 pp.
2. Hoyos, L.R. (1993). "Dynamic properties of Puerto Rican residual soils using the resonant column device." M.S. Thesis, University of Puerto Rico, Mayaguez, Puerto Rico, 171 pp.
3. Hoyos, L.R., and Serrano, M. (1991). "Physical, chemical and rheological characterization of Castilla asphalt materials from Apiay, Meta." M.S. Thesis, Universidad del Cauca, Popayán, Colombia, 141 pp. (Spanish.)
4. Hoyos, L.R., et al. (1988). "Optimization of aqueduct and design of a sewer system for the City of Pueblo Nuevo, Córdoba." B.S. Thesis, Corporación Universitaria de la Costa, Barranquilla, Colombia. (Spanish.)

Professional Licensure and Work Experience

- Professional Engineer (P.E.). April 28, 2004*
License No. 93397, Texas Board of Professional Engineers (TBPE), Austin, Texas
- Registered Civil Engineer. February 21, 1991
License No. 08202-38064, National Council of Engineering and Architecture, Bogotá, Colombia
- Resident Engineer. February 1989 – July 1989
Cinarco Ltd., Civil Engineers & Contractors, Barranquilla, Colombia
- Resident Intern & Engineer. December 1987 – June 1989
Sergio Torres Reátiga Ltd., Civil Engineers & Contractors, Barranquilla, Colombia

Academic Awards and Recognitions

- Paper Honorable Mention. 2010
Geo-Institute of ASCE, GeoFlorida 2010 Congress, February 20-24, 2010, West Palm Beach, Florida
- Excellence in Research Fellowship Recipient. 2006, 2007, 2008, 2009
Office of the Provost, University of Texas at Arlington, Arlington, Texas
- Outstanding Civil Engineering Instructor Award. February 2005
Department of Civil Engineering, University of Texas at Arlington, Arlington, Texas
- Outstanding Young Faculty Member Award. February 2003
College of Engineering, University of Texas at Arlington, Arlington, Texas

* First CE faculty member at UTA granted P.E. License under the Engineering Educator application process.

- Outstanding PhD Graduate Award. December 1998
College of Engineering, Georgia Institute of Technology, Atlanta, Georgia
- George Mooney Scholarship Recipient. Summer 1998
School of Civil & Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia
- George F. Sowers Distinguished Graduate Student Award. June 1997
Geosystems Engineering Program, Georgia Institute of Technology, Atlanta, Georgia
- Alfredo Estrada Distinguished Hispanic Graduate Student Award. December 1995
International Office, Georgia Institute of Technology, Atlanta, Georgia

Continuing Professional Development Efforts

- Foundation Engineering Faculty Workshop. June 8-14, 2008
Sponsored by International Association of Foundation Drilling (ADSC), Chattanooga, Tennessee
- NSF-USUCGER National Workshop. May 18, 2008
Sponsored by National Science Foundation, Sacramento, California
- Second NEES Centrifuge Research and Training Workshop. November 14-16, 2005
Sponsored by National Science Foundation, Rensselaer Polytechnic Institute (RPI), Troy, New York
- Workshop on Nonlinear Modeling of Geotechnical Problems. November 3-4, 2005
Sponsored by National Science Foundation, Johns Hopkins University, Baltimore, Maryland
- First NEES Centrifuge Research and Training Workshop. November 18-19, 2004
Sponsored by National Science Foundation, University of California at Davis, Davis, California
- Workshop on Predicted and Measured Dynamic Behavior of Foundations. June 5-6, 2004
Sponsored by Geo-Institute of ASCE, EESD Committee, St. Louis, Missouri
- NEES/IRIS/USGS Workshop & Pilot Field Experiment. April 29-30, 2004
Sponsored by U.S. Geological Survey (USGS), University of Texas at Austin, Austin, Texas
- Short Course on Computational Geotechnics & Dynamics (PLAXIS). January 5-8, 2004
Sponsored by University of Colorado, Boulder, Colorado
- NSF-USUCGER National Workshop. October 1-3, 2003
Sponsored by U.S. Universities Council on Geotechnical Education & Research, Atlanta, Georgia
- Second Annual Professors' Piling Institute Workshop. June 9-13, 2003
Sponsored by Pile Driving Contractors Association (PDCA), Utah State University, Logan, Utah
- Fourth NSF New Century Scholars Workshop. July 28 - August 2, 2002
Sponsored by National Science Foundation, Stanford University, Stanford, California

- Novel Methods for Stabilizing Texas Expansive Soils Seminar. June 12, 2002
Sponsored by Texas Society of Professional Engineers (TSPE), Arlington, Texas
- NSF Workshop for the Advancement of Minority Engineering Educators. October 1-3, 2001
Sponsored by National Science Foundation, Arlington, Virginia
- ASCE Workshop on Excellence in Civil Engineering Education (ExCEED). July 29 – August 3, 2001
Sponsored by ASCE, West Point Military Academy, West Point, New York
- ASCE Short Course on Unsaturated Soils in Engineering Practice. August 4, 2000
Sponsored by Geo-Institute of ASCE, Denver, Colorado
- PCA Professors' Seminar on Engineering of Concrete Pavement. June 21-23, 2000
Sponsored by American Concrete Pavement Association (ACPA), Skokie, Illinois
- NSF Workshop for the Advancement of Minority Engineering Educators. September 27-29, 1999
Sponsored by National Science Foundation, Arlington, Virginia
- Post-Doctoral Research Fellowship. August 1999 – December 1999
Department of Civil & Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana
- Post-Doctoral Research Fellowship. January 1999 – July 1999
Geosystems Engineering Program, Georgia Institute of Technology, Atlanta, Georgia
- NSF Workshop for the Advancement of Minority Engineering Educators. September 24-26, 1997
Sponsored by National Science Foundation, Arlington, Virginia
- Graduate Research Assistantship. September 1994 – December 1998
Geosystems Engineering Program, Georgia Institute of Technology, Atlanta, Georgia
- Graduate Research Assistantship. January 1992 – December 1993
Department of Civil Engineering, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico
- Graduate Research Assistantship. August 1989 – August 1991
Colombian Department of Transportation, Bogotá, Colombia

Teaching Experience

- Associate Professor. September 2005 – Pres.
Department of Civil Engineering, University of Texas at Arlington, Arlington, Texas
- Assistant Professor. January 2000 – August 2005
Department of Civil Engineering, University of Texas at Arlington, Arlington, Texas
- Post-Doctoral Fellow. January 1999 – May 1999
School of Civil & Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia
- Adjunct Professor. January 1994 – May 1994
Department of Civil Engineering, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico

New Curricula Developed

1. CE 5300 Unsaturated Soil Mechanics II. (*To be offered first time: Summer 2012.*) Advanced principles of unsaturated soil behavior in light of critical state based soil mechanics. Topics: Cam-Clay model for saturated soils, Cam-Clay model for unsaturated soils, and calibration/programming of Barcelona Basic Model (BBM) for unsaturated soils. University of Texas at Arlington, Arlington, Texas.
2. CE 5368 Unsaturated Soil Mechanics. (*First time offered: Fall 2004.*) Principles of unsaturated soil mechanics presented as an extension of classical saturated soil mechanics. Topics: stress state variables, flow laws, shear strength, volume change, and critical-state framework. University of Texas at Arlington, Arlington, Texas.
3. CE 5366 Soil Dynamics. (*First time offered: Fall 2001.*) Response of soils and earth structures to dynamic loading. Topics: wave propagation in soils, dynamic soil properties, soil liquefaction, machine foundations, seismic design of retaining walls, and seismic slope stability analysis. University of Texas at Arlington, Arlington, Texas.
4. CE 5363 Constitutive Modeling of Soils. (*First time offered: Summer 2001.*) Constitutive behavior of soils in light of critical state soil mechanics. Topics: soil elasticity, soil plasticity, shear strength in light of critical state theories, and introduction to Cam-Clay model. University of Texas at Arlington, Arlington, Texas.

Visiting Research Scholars (J-1 Visa) Supervised

1. Cruz, José A. (Mar 2010 – Oct 2011). *Work Supervised: Calibration and setting up of a novel suction-controlled biaxial apparatus*. Ph.D. Candidate, University of the Andes, Bogotá, Colombia.
2. Pineda, Jorge A. (Nov 2008 – Aug 2009). *Work Supervised: Calibration and setting up of a suction-controlled resonant column device*. Ph.D. Candidate, National University of Colombia, Bogotá, Colombia.

Ph.D. Dissertations Advised

1. Elhadi, Abdel R. (*in progress*). "Modeling greenhouse gas emissions from wastewater treatment plants using Remote Sensing and GIS technologies." *Ph.D. Dissertation*, University of Texas at Arlington, Expected: Fall 2013.
2. Yepes, Jairo E. (*in progress*). "Unsaturated soil response under large deformations via ring shear testing in the high-suction range." *Ph.D. Dissertation*, University of Texas at Arlington, Expected: Fall 2013.
3. Velosa, Claudia L. (2011). "Unsaturated soil behavior under large deformations using a fully servo/suction-controlled ring shear apparatus." *Ph.D. Dissertation*, University of Texas at Arlington, April 2011, 192 pp.
4. Pérez-Ruiz, Diego D. (2009). "A refined true triaxial apparatus for testing unsaturated soils under suction-controlled stress paths." *Ph.D. Dissertation*, University of Texas at Arlington, July 2009, 320 pp.
5. Laikram, Arthit (2007). "Modeling unsaturated soil response under suction-controlled multi-axial stress states." *Ph.D. Dissertation*, University of Texas at Arlington, November 2007, 225 pp.
6. Takkabutr, Phayak (2006). "Experimental investigations on small-strain stiffness properties of partially saturated soils via resonant column and bender element testing." *Ph.D. Dissertation*, University of Texas at Arlington, July 2006, 289 pp.
7. Jadeja, Mahipalsinh R. (2004). "Assessment of landslide hazard potential in Parker County, north Texas using FDM-based FLAC and GIS software technologies." *Ph.D. Dissertation*, Co-Advisor: Dr. John Wickham, University of Texas at Arlington, April 2004, 255 pp.

M.S. Theses Advised

1. Douglas, William A. (*in progress*). "Development of a stress-controlled SWCC cell with self-contained bender elements." *M.S. Thesis*, University of Texas at Arlington, Expected: Summer 2012.
2. Suescún, Eduardo A. (2010). "Development of a suction-controlled resonant column apparatus with self-contained bender elements." *M.S. Thesis*, University of Texas at Arlington, May 2010, 128 pp.
3. Mohammad, Roshnara (2008). "Dynamic properties of compacted soils using resonant column with self-contained bender elements." *M.S. Thesis*, University of Texas at Arlington, April 2008, 132 pp.
4. Thudi, H. Reddy (2006). "Assessment of soil-water retention properties of lime and cement treated clays." *M.S. Thesis*, University of Texas at Arlington, July 2006, 80 pp.
5. Pyo, Sangchul (2006). "General response of kneading-compacted unsaturated silty sand under drained and undrained true triaxial testing." *M.S. Thesis*, University of Texas at Arlington, July 2006, 132 pp.
6. Ordóñez, Carlos (2006). "Characterization of cemented and fiber-reinforced RAP aggregate materials for base/sub-base applications." *M.S. Thesis*, University of Texas at Arlington, July 2006, 105 pp.

7. Park, Jae Hyun (2005). "Performance and check-out verification testing of a new true triaxial apparatus using partially saturated silty sand." *M.S. Thesis*, University of Texas at Arlington, July 2005, 110 pp.
8. Chowdhury, Mynul H. (2004). "Dynamic properties of high and low plasticity clays using resonant column and bender element techniques." *M.S. Thesis*, University of Texas at Arlington, November 2004, 117 pp.
9. Mohammed, Rasheed K. (2004). "Assessment of seasonal effects on strength and micro-fabric of type V cement treated clay." *M.S. Thesis*, University of Texas at Arlington, November 2004, 82 pp.
10. Debur Nagarajan, Srilakshmi (2004). "Dynamic response of chemically treated sulfate-rich clay under cyclic wetting-drying." *M.S. Thesis*, University of Texas at Arlington, November 2004, 119 pp.
11. Laikram, Arthit (2003). "Effects of cyclic wetting-drying on dynamic properties of chemically stabilized sulfate-rich clay." *M.S. Thesis*, University of Texas at Arlington, November 2003, 103 pp.
12. Sappington IV, James P. (2003). "Effects of cyclic wetting-drying on strength and 1-D shrink-swell response of chemically stabilized sulfate-rich expansive clay." *M.S. Thesis*, University of Texas at Arlington, November 2003, 123 pp.
13. Abdul-Razzaq, Ibrahim (2003). "Assessment of groundwater contamination risk potential of petroleum underground storage tank facilities using GIS technology." *M.S. Thesis*, University of Texas at Arlington, April 2003, 127 pp.
14. Takkabutr, Phayak (2002). "Effects of cyclic drying and wetting on strength and stiffness properties of chemically stabilized sulfate-rich expansive clay." *M.S. Thesis*, University of Texas at Arlington, July 2002, 112 pp.
15. Devabhaktuni, Kalyani (2002). "Assessment of potential heave induced infrastructure distress hazard in expansive soil environments using GIS technology." *M.S. Thesis*, University of Texas at Arlington, July 2002, 125 pp.
16. Chainuwat, Phonlawut (2001). "Effects of compaction moisture content on stiffness properties of chemically stabilized sulfate-rich expansive clays using the resonant column testing device." *M.S. Thesis*, University of Texas at Arlington, July 2001, 131 pp.

Classroom and Laboratory Instruction Record

Subject No.	Description	Level	Semester	Enrollment	Grade Distribution				
					A	B	C	D	F
Associate Professor – University of Texas at Arlington									
CE 4320	Advanced Topics in Civil Eng.	U	SUM 2011	16					
CE 5363	Constitutive Modeling of Soils	G	SUM 2011	13					
CE 5367	Design of Earth Structures	G	SPR 2011	5	2	3			
CE 5370	Experimental Soil Mechanics	G	SPR 2011	22	14	7	1		
CE 3343	Soil Mechanics I	U	FALL 2010	29	6	6	10	3	4
CE 4320/5367	Advanced Topics in Civil Eng.	U/G	SUM 2010	26	8	10	6	2	
CE 5368	Unsaturated Soil Mechanics	G	SPR 2010	6	4	2			
CE 5367	Design of Earth Structures	G	SPR 2010	10	4	5	1		
CE 3343	Soil Mechanics I	U	FALL 2009	24	5	5	11	1	2
CE 4320/5367	Advanced Topics in Civil Eng.	U/G	SUM 2009	17	5	5	7		
CE 5363	Constitutive Modeling of Soils	G	SUM 2009	9	6	3			
CE 3343	Soil Mechanics I	U	SPR 2009	20	3	9	4	1	3
CE 5370	Experimental Soil Mechanics	G	FALL 2008	8	5	3			
CE 4320/5367	Advanced Topics in Civil Eng.	U/G	SUM 2008	15	7	5	3		
CE 5368	Unsaturated Soil Mechanics	G	SPR 2008	8	8				
CE 5367	Design of Earth Structures	G	SPR 2008	7	5	2			
CE 5370	Experimental Soil Mechanics	G	FALL 2007	12	6	5	1		
CE 3343	Soil Mechanics I	U	FALL 2007	34	3	6	9	7	9
CE 5363	Constitutive Modeling of Soils	G	SUM 2007	6	5	1			
CE 5368	Unsaturated Soil Mechanics	G	SPR 2007	5	3	2			
CE 5367	Design of Earth Structures	G	SPR 2007	6		4	2		
CE 5370	Experimental Soil Mechanics	G	FALL 2006	7	3	3	1		
CE 5366	Soil Dynamics	G	FALL 2006	10	5	3	1		
CE 5363	Constitutive Modeling of Soils	G	SUM 2006	4	4				
CE 5368	Unsaturated Soil Mechanics	G	SPR 2006	5	5				
CE 5367	Design of Earth Structures	G	SPR 2006	12	5	5	1	1	
CE 3343	Soil Mechanics I	U	FALL 2005	53	8	14	12	4	13
CE 3143 (01)	Soil Mechanics Laboratory	U	FALL 2005	17	8	6	3		
CE 3143 (02)	Soil Mechanics Laboratory	U	FALL 2005	16	6	4	5	1	

Assistant Professor – University of Texas at Arlington									
CE 5363	Constitutive Modeling of Soils	G	SUM 2005	5	3	2			
CE 5364	Foundation Analysis and Design	G	SPR 2005	14	8	5	1		
CE 5367	Design of Earth Structures	G	SPR 2005	7	2	3	1		
CE 5368	Unsaturated Soil Mechanics	G	FALL 2004	9	5	3			
CE 5370	Experimental Soil Mechanics	G	FALL 2004	11	3	7			
CE 5363	Constitutive Modeling of Soils	G	SUM 2004	10	9	1			
CE 5367	Design of Earth Structures	G	SPR 2004	16	12	3	1		
CE 4321/5364	Foundation Analysis and Design	U/G	SPR 2004	46	34	8	2	1	1
CE 5370	Experimental Soil Mechanics	G	FALL 2003	10	5	5			
CE 5366	Soil Dynamics	G	FALL 2003	14	9	5			
CE 5363	Constitutive Modeling of Soils	G	SUM 2003	10	9		1		
CE 5364	Foundation Analysis and Design	G	SPR 2003	11	8	3			
CE 5367	Design of Earth Structures	G	SPR 2003	11	9	2			
CE 5370	Experimental Soil Mechanics	G	FALL 2002	8	7	1			
CE 3343	Soil Mechanics I	U	FALL 2002	27	5	16	6		
CE 5363	Constitutive Modeling of Soils	G	SUM 2002	5	5				
CE 4321/5364	Foundation Analysis and Design	U/G	SPR 2002	34	22	11	1		
CE 5367	Design of Earth Structures	G	SPR 2002	6	6				
CE 5366	Soil Dynamics	G	FALL 2001	9	7	2			
CE 5370	Experimental Soil Mechanics	G	FALL 2001	12	11	1			
CE 5363	Constitutive Modeling of Soils	G	SUM 2001	8	8				
CE 5364	Foundation Analysis and Design	G	SPR 2001	13	8	5			
CE 3143	Soil Mechanics Laboratory	U	SPR 2001	8	4	2	2		
CE 3343	Soil Mechanics I	U	FALL 2000	23	11	9	3		
CE 3143	Soil Mechanics Laboratory	U	FALL 2000	18	10	6	1	1	
CE 5367	Design of Earth Structures	G	SPR 2000	13	10	3			

Post-Doctoral Fellow – Georgia Institute of Technology									
CE 6352	Advanced Soils Laboratory	G	SPR 1999	14	14				
CE 3309	Construction Materials	U	FALL 1998	34	12	18	3	1	

Adjunct Professor – University of Puerto Rico at Mayaguez									
INCI 4329	Foundation Engineering	U	SPR 1994	32	10	11	9	2	
INCI 4139	Geotechnical Engineering	U	SPR 1994	41	16	20	3	2	

Research Experience

- Associate Professor. September 2005 – Pres.
Experimental/Computational Geomechanics, University of Texas at Arlington, Arlington, Texas
- Assistant Professor. January 2000 – August 2005
Experimental/Computational Geomechanics, University of Texas at Arlington, Arlington, Texas
- Post-Doctoral Research Fellow. August 1999 – December 1999
Experimental/Computational Geomechanics, Louisiana State University, Baton Rouge, Louisiana
- Post-Doctoral Research Fellow. January 1999 – July 1999
Experimental/Computational Geomechanics, Georgia Institute of Technology, Atlanta, Georgia
- Graduate Research Assistant. September 1994 – December 1998
Experimental/Computational Geomechanics, Georgia Institute of Technology, Atlanta, Georgia
- Research Engineer. Summer 1994
Dynamic Soil Testing, Civil Infrastructure Research Center, UPR-RUM, Mayaguez, Puerto Rico
- Graduate Research Assistant. January 1992 – December 1993
Dynamic Soil Testing, Department of Civil Engineering, UPR-RUM, Mayaguez, Puerto Rico
- Research Engineer. September 1991 – December 1991
Rheology of Bituminous Materials, Colombian Institute of Petroleum (ICP), Piedecuesta, Colombia
- Graduate Research Assistant. August 1989 – August 1991
Rheology of Bituminous Materials, Department of Civil Engineering, Universidad del Cauca, Colombia

PI/Co-PI Research Grants

Total: \$5,024,088

PI Grants

1. Texas Department of Transportation. Award: **\$60,797**. Project # 0-6084. Title: “Cement treated RAP.” PI: Laureano Hoyos. Co-PIs: Anand Puppala and Sireesh Saride. *Lead Institution*: University of Texas at El Paso (UTEP). Project Duration: 2 yrs (09/01/08 – 08/31/10).
2. National Science Foundation. Award: **\$208,974**. Award # 0626090. Title: “Assessment of unsaturated soil response under large deformations via ring shear testing.” PI: Laureano Hoyos. Co-PI: Anand Puppala. Project Duration: 3 yrs (10/01/06 – 09/30/09).
3. Texas Industries Inc. (TXI). Award: **\$102,895**. Title: “Engineering properties of cemented, fiber-reinforced recycled aggregate materials for base/sub-base applications in pavement engineering.” PI: Laureano Hoyos. Co-PIs: Anand Puppala and Sahadat Hossain. Project Duration: 1.25 years (06/01/05 – 08/31/06).

4. National Science Foundation. Award: **\$308,952**. Award # 0216545. Title: "MRI Development of a strain/temperature/suction-controlled true triaxial testing device for modeling unsaturated soil behavior under multi-axial stress states." PI: Laureano Hoyos. Co-PI: Anand Puppala. Project Duration: 4 yrs (08/01/02 – 07/31/06).
5. City of Arlington, Texas. Award: **\$39,850**. Title: "Laboratory assessment of aging effects induced by seasonal changes on long-term strength and stiffness properties of chemically stabilized sulfate-rich expansive clays from southeast Arlington, Texas." PI: Laureano Hoyos. Co-PI: Anand Puppala. Project Duration: 1.5 yrs (09/01/01 – 06/30/03).
6. Cement and Concrete Promotion Council of Texas. Award: **\$7,500**. Title: "Effects of sulfate-resistant cement on stiffness properties of natural sulfate-rich subgrade soils using the resonant column testing device." PI: Laureano Hoyos. Co-PI: Anand Puppala. Project Duration: 1 yr (10/01/00 – 09/30/01).
7. Research Enhancement Program (UTA). University Award: **\$10,000**. Title: "Laboratory assessment of long-term resilient modulus of chemically stabilized expansive soils using the resonant column testing device." PI: Laureano Hoyos. Project Duration: 1 yr (09/01/00 – 08/31/01).

Co-PI Grants

8. National Science Foundation. Award: **\$400,023**. Award # 1039956. Title: "MRI: Development of advanced triaxial testing device for comprehensive characterization of unsaturated and expansive soil behaviors over a wider range of soil suction states." PI: Anand Puppala. Co-PIs: Laureano Hoyos, Saibun Tjuatja, and John Wickham. Project Duration: 4 yrs (09/01/10 – 08/31/14).
9. National Science Foundation. Award: **\$244,886**. Award # 1031214. Title: "Collaborative Research: SWCC based models for realistic simulation of swell behavior of expansive soils." PI: Anand Puppala. Co-PI: Laureano Hoyos. *Co-Lead Institutions*: Arizona State University (ASU) and University of Missouri-Columbia (UM). Project Duration: 3 yrs (09/01/10 – 08/31/13).
10. Texas Department of Transportation. Award: **\$207,962**. Project # 0-6618. Title: "Mitigation of high sulfate soils in Texas." PI: Anand Puppala. Co-PI: Laureano Hoyos. *Co-Lead Institution*: Texas A&M University (TTI). Project Duration: 3 yrs (09/01/10 – 08/31/13).
11. Transportation Research Board – NCHRP Program. Award: **\$75,055**. Title: "Modulus-based construction specification for compaction of earthwork and unbound aggregate." PI: Anand Puppala. Co-PI: Laureano Hoyos. *Lead Institution*: University of Texas at El Paso (UTEP). Project Duration: 2.5 yrs (09/01/10 – 02/28/13).
12. Tarrant Regional Water District (TRWD). Award: **\$175,143**. Title: "Backfill studies for Integrated Pipeline (IPL) systems." PI: Anand Puppala. Co-PI: Laureano Hoyos. Project Duration: 2 years (09/01/10 – 08/31/12).
13. Texas Department of Transportation. Award: **\$671,395**. Contract # 18-0XXIA001. Title: "Slope Stability analyses for Dallas and Fort Worth districts." PI: Sahadat Hossain. Co-PIs: Laureano Hoyos and Anand Puppala. Project Duration: 2 yrs (08/26/09 – 08/31/11).
14. Texas Department of Transportation. Award: **\$237,446**. Project # 0-6146. Title: "Design of short, laterally loaded drilled shafts in high-plasticity clay." PI: Anand Puppala. Co-PIs: Laureano Hoyos and Sireesh Saride. Project Duration: 2 yrs (09/01/08 – 08/31/10).

15. Texas Department of Transportation. Award: **\$376,762**. Project # 0-6022. Title: "Recommendations for design, construction and maintenance of bridge approach slabs." PI: Anand Puppala. Co-PIs: Laureano Hoyos and Sireesh Saride. *Co-Lead Institution*: University of Texas at El Paso (UTEP). Project Duration: 3 yrs (09/01/07 – 08/31/10).
16. Texas Department of Transportation. Award: **\$106,913**. Project # 0-5569. Title: "Accelerated stabilization design." PI: Anand Puppala. Co-PI: Laureano Hoyos. *Lead Institution*: University of Texas at El Paso (UTEP). Project Duration: 2 yrs (09/01/06 – 08/31/08).
17. Texas Department of Transportation. Award: **\$43,156**. Project # 0-5540. Title: "Mitigating the effects of organics in stabilized soils." PI: Anand Puppala. Co-PI: Laureano Hoyos. *Lead Institution*: Texas A&M University (TTU). Project Duration: 2 yrs (09/01/06 – 08/31/08).
18. Texas Department of Transportation. Award: **\$428,060**. Contract # 02-6XXIA003. Title: "Interagency Cooperation Contract: Compost applications for mitigation of pavement cracking." PI: Anand Puppala. Co-PIs: Sayed Qasim, Laureano Hoyos, and Sahadat Hossain. Project Duration: 1.6 yrs (02/14/06 – 08/31/07).
19. Dallas Area Rapid Transit (DART) Authority. Award: **\$29,906**. Title: "Investigations to address tunnel liner cracking, quality of rocks, and leaked water quality." PI: Anand Puppala. Co-PI: Laureano Hoyos. Project Duration: 0.4 years (05/01/06 – 08/31/06).
20. Texas Department of Transportation. Award: **\$145,174**. Project # 0-5430. Title: "Realistic design guidelines for low classification roads in high PI clays." PI: Anand Puppala. Co-PI: Laureano Hoyos. *Lead Institution*: University of Texas at El Paso (UTEP). Project Duration: 2 yrs (01/09/06 – 01/31/08).
21. Texas Department of Transportation. Award: **\$266,433**. Project # 0-5179. Title: "Deep mixing technology for mitigation of pavement roughness." PI: Anand Puppala. Co-PI: Laureano Hoyos. *Co-Lead Institution*: University of Texas at El Paso (UTEP). Project Duration: 2 yrs (09/01/04 – 08/31/07).
22. Texas Department of Transportation. Award: **\$25,000**. Project # 0-4682. Title: "Correlation of Texas cone penetrometer test values and shear strength of Texas soils." PI: Anand Puppala. Co-PI: Laureano Hoyos. *Lead Institution*: University of Houston (UH). Project Duration: 2 yrs (09/01/04 – 08/31/06).
23. National Science Foundation. Award: **\$136,962**. Award # 0243994. Title: "REU-Site: Performance evaluation of civil infrastructure systems." PI: Ali Abolmaali. Co-PIs: John Matthys, Anand Puppala, and Laureano Hoyos. Project Duration: 3 yrs (01/01/03 – 12/31/05).
24. National Science Foundation. Award: **\$74,382**. Award # 0231404. Title: "CCLI-EMD: Development of web-based real time virtual model based simulation laboratory for soil-structure interaction problems." PI: Ali Abolmaali. Co-PIs: Laureano Hoyos, Kathlyn Canaday, and Anand Puppala. Project Duration: 2 yrs (01/15/03 – 12/31/04).
25. Texas Department of Transportation. Award: **\$262,626**. Project # 0-4573. Title: "The effects of using compost as a preventive measure to mitigate shoulder cracking." PI: Anand Puppala. Co-PIs: Laureano Hoyos and Syed Qasim. Project Duration: 2 yrs (09/01/02 – 08/31/04).
26. National Science Foundation. Award: **\$237,816**. Award # 0100255. Title: "Experimental investigations on chemically treated sulfate soils for fundamental understanding of heaving mechanisms." PI: Anand Puppala. Co-PI: Laureano Hoyos. Project Duration: 4.5 yrs (05/15/01 – 10/31/05).
27. City of Arlington, Texas. Award: **\$120,020**. Title: "Field investigations for comprehensive assessments of four selected stabilization methods for soft subgrade soils from southeast Arlington, Texas." PI: Anand Puppala. Co-PI: Laureano Hoyos. Project Duration: 4.5 yrs (01/01/01 – 05/30/05).

28. Portland Cement Association. Award: **\$20,000**. Title: "Effectiveness of sulfate resistant cement for comprehensive stabilization of sulfate rich soils." PI: Anand Puppala. Co-PI: Laureano Hoyos. Project Duration: 1 yr (09/01/00 – 08/31/01).

Books Edited

1. Lead Editor, *Experimental and Applied Modeling of Unsaturated Soils*, Geotechnical Special Publication 202, Geo-Institute of ASCE, Proceedings of GeoShanghai 2010, June 3-5, 2010, Shanghai, China, Eds: L.R. Hoyos, X. Zhang, and A.J. Puppala, 228 pp.
2. Co-Editor, *Ground Improvement and Geosynthetics*, Geotechnical Special Publication 207, Geo-Institute of ASCE, Proceedings of GeoShanghai 2010, June 3-5, 2010, Shanghai, China, Eds: A.J. Puppala, J. Huang, J. Han, and L.R. Hoyos, 380 pp.
3. Co-Editor, *Advances in Unsaturated Soil, Seepage, and Environmental Geotechnics*, Geotechnical Special Publication 148, Geo-Institute of ASCE, Proceedings of GeoShanghai 2006, June 6-8, 2006, Shanghai, China, Eds: N. Lu, L.R. Hoyos, and L. Reddi, 376 pp.

Invited Keynote Papers

1. Hoyos, L.R., and Puppala, A.J. (2009). "Behavior of chemically stabilized sulfate-rich subgrade clays under quick aging environments." *Keynote Paper, Proc., INDEX 2009: International Conference on Infrastructure Development on Expansive Soils, Springer*, August 27-29, 2009, Adhiyamaan College of Engineering, Hosur, India, Eds: G. Ranganath and S. Suresh Babu, pp. 16-27.
2. Puppala, A.J., Manosuthkij, T., and Hoyos, L.R. (2009). "Better characterization of expansive soils for the design of pavement infrastructure." *Keynote Paper, Proc., INDEX 2009: International Conference on Infrastructure Development on Expansive Soils, Springer*, August 27-29, 2009, Adhiyamaan College of Engineering, Hosur, India, Eds: G. Ranganath and S. Suresh Babu, pp. 74-89.
3. Hoyos, L.R., Puppala, A.J., and Arduino, P. (2008). "Advances in experimental and computational modeling of unsaturated soil response under general stress states." *Keynote Paper, CD-Rom Proc., IGC 2008: Indian Geotechnical Conference*, December 17-19, 2008, Indian Institute of Science, Bangalore, India, Eds: T.G. Sitharam and G.L. Sivakumar Babu, vol. 1, pp. 210-225.

Refereed Book Chapters and Journal Publications

Main Author

1. Velosa, C.L., Hoyos, L.R., and Puppala, A.J. (2011). "Unsaturated soil response under large deformations using a servo/suction-controlled ring shear apparatus." *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, (under re-review).

2. Hoyos, L.R., Suescún, E.A., and Puppala, A.J. (2011). "Small-strain response of unsaturated soils using a suction-controlled resonant column device with bender elements." Journal of Geotechnical and Geoenvironmental Engineering, ASCE, (under re-review).
3. Pérez-Ruiz, D.D., and Hoyos, L.R. (2011). "A refined approach to Barcelona Basic Model." Journal of Geotechnical and Geoenvironmental Engineering, ASCE, Technical Note, (under re-review).
4. Hoyos, L.R., Pérez-Ruiz, D.D., and Puppala, A.J. (2011). "Modeling unsaturated soil response under suction controlled true triaxial stress paths." International Journal of Geomechanics, ASCE, (in press).
5. Hoyos, L.R., Pérez-Ruiz, D.D., and Puppala, A.J. (2011). "A refined true triaxial apparatus for testing unsaturated soils under suction controlled stress paths." International Journal of Geomechanics, ASCE, (in press).
6. Hoyos, L.R., Velosa, C.L., and Puppala, A.J. (2011). "A servo/suction-controlled ring shear apparatus for unsaturated soils: Development, performance and preliminary results." Geotechnical Testing Journal, ASTM, (in press).
7. Puppala, A.J., Hoyos, L.R., and Potturi, A.K. (2011). "Studies on resilient moduli response of moderately cement-treated reclaimed asphalt pavement aggregates." Journal of Materials in Civil Engineering, ASCE, (in press).
8. Hoyos, L.R., Ordóñez, C.A., and Puppala, A.J. (2011). "Characterization of cement-fiber-treated reclaimed asphalt pavement aggregates: A preliminary investigation." Journal of Materials in Civil Engineering, ASCE, (in press).
9. Puppala, A.J., Hoyos, L.R., Qasim, S.R., and Intharasombat, N. (2011). "Quality of runoff leachate collected from biosolids and dairy manure compost amended topsoils." Journal of Hazardous, Toxic, and Radioactive Waste, ASCE, (in press).
10. Yuan, D., Nazarian, S., Hoyos, L.R., and Puppala, A.J. (2011). "Evaluation and mix design of cement-treated base materials with high RAP content." Journal of the Transportation Research Board, (in press).
11. Hossain, M.S., Penmethsa, K.K., and Hoyos, L.R. (2009). "Permeability of municipal solid waste in bioreactor landfill with degradation." Geotechnical and Geological Engineering, Springer, 27, pp. 43-51.
12. Hoyos, L.R., and Arduino, P. (2008). "Implicit algorithm for modeling unsaturated soil response in three-invariant stress space." International Journal of Geomechanics, ASCE, Technical Note, 8(4), pp. 266-273.
13. Hoyos, L.R., Laloui, L., and Vassallo, R. (2008). "Mechanical testing in unsaturated soils." Geotechnical and Geological Engineering, Springer, 26, pp. 675-689.
14. Hoyos, L.R., Laikram, A., and Puppala, A.J. (2006). "Assessment of seasonal effects on engineering behavior of chemically treated sulfate-rich expansive clay." Book Chapter, Balkema, *Expansive Soils: Recent Advances in Characterization and Treatment*, Eds: A.A. Al-Rawas and M.F.A. Goosen, pp. 483-503.
15. Hoyos, L.R., Chainuwat, P., and Puppala, A.J. (2006). "Dynamic characterization of chemically modified expansive soil." Book Chapter, Balkema, *Expansive Soils: Recent Advances in Characterization and Treatment*, Eds: A.A. Al-Rawas and M.F.A. Goosen, pp. 465-481.
16. Wang, L., Hoyos, L.R., Mohammad, L., and Abadie, C. (2005). "Characterization of asphalt concrete by multi-stage true triaxial testing." Journal of ASTM International, ASTM, 2(10), pp. 7-16.

17. Wang, L., Hoyos, L.R., Wang, J., Voyiadjis, G., and Abadie, C. (2005). "Anisotropic properties of asphalt concrete: Characterization and implications for pavement design and analysis." Journal of Materials in Civil Engineering, ASCE, 17(5), pp. 535-543.
18. Macari, E.J., and Hoyos, L.R. (2005). "Earthquake-induced liquefaction potential in western Puerto Rico using GIS technology." Book Chapter, Geological Society of America, Active Tectonics and Seismic Hazards of Puerto Rico, the Virgin Islands, and Offshore Areas, Special Paper 385, Ed: P. Mann, pp. 277-287.
19. Hoyos, L.R., Puppala, A.J., and Chainuwat, P. (2004). "Dynamic properties of chemically stabilized sulfate rich clay." Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 130(2), pp. 153-162.
20. Macari, E.J., Hoyos, L.R., and Arduino, P. (2003). "Constitutive modeling of unsaturated soil behavior under axisymmetric stress states using a stress/suction-controlled cubical test cell." International Journal of Plasticity, Elsevier Science, 19(10), pp. 1481-1515.
21. Hoyos, L.R., and Macari, E.J. (2001). "Development of a stress/suction-controlled true triaxial testing device for unsaturated soils." Geotechnical Testing Journal, ASTM, 24(1), pp. 5-13.
22. Macari, E.J., and Hoyos, L.R. (2001). "Mechanical behavior of an unsaturated soil under true triaxial stress states." Geotechnical Testing Journal, ASTM, 24(1), pp. 14-22.
23. Hoyos, L.R., and Macari, E.J. (1999). "Influence of in situ factors on dynamic response of Piedmont residual soils." Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 125(4), pp. 271-279.
24. Macari, E.J., and Hoyos, L.R. (1996). "Effect of degree of weathering on dynamic properties of residual soils." Journal of Geotechnical Engineering, ASCE, 122(12), pp. 988-997.

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25. Puppala, A.J., Manosuthkij, T., Nazarian, S., Hoyos, L.R., and Chittoori, B. (2011). "In situ matric suction and moisture content measurements at various seasonal conditions in an expansive clay." Geotechnical Testing Journal, ASTM, (*in press*).
26. Puppala, A.J., Manosuthkij, T., Nazarian, S., and Hoyos, L.R. (2011). "Threshold moisture content and matric suction potentials in expansive clays prior to initiation of cracking in pavements." Canadian Geotechnical Journal, NRC, (*in press*).
27. Intharasombat, N., Puppala, A.J., Qasim, S.R., Williammee, R., and Hoyos, L.R. (2011). "Treatment of recycled compost material with topsoil in order to control cracking of pavement infrastructure." Land Contamination & Reclamation, EPP Pubs., 18(4), pp. 373-382.
28. Hoyos, L.R., Laloui, L., and Vassallo, R. (2009). "Mechanical testing in unsaturated soils." Book Chapter, Springer, Laboratory and Field Testing of Unsaturated Soils, Eds: A. Tarantino, E. Romero, and Y.-J. Cui, pp. 63-77.
29. Manosuthkij, T., Puppala, A.J., Nazarian, S., Saride, S., and Hoyos, L.R. (2008). "Comparisons between field and laboratory suction measurements of expansive clays." Journal of the Transportation Research Board, TRR No. 2053, pp. 39-46.
30. Puppala, A.J., Saride, S., Hoyos, L.R., and Tumay, M.T. (2007). "Analysis of cone penetration testing on dilatant cemented sand by bearing capacity and cavity expansion models." Book Chapter, Saxe-Coburg Pubs., Civil Engineering Computations: Tools and Techniques, Ed: B.H.V. Topping, pp. 449-472.

31. Puppala, A.J., Pillapa, G.S., Hoyos, L.R., Vasudev, D., and Devulapalli, D. (2007). "Comprehensive field studies to address the performance of stabilized expansive clays." Journal of the Transportation Research Board, TRR No. 1989, vol. 2, pp. 3-12.
32. Puppala, A.J., Pathivada, S., Bhadriraju, V., and Hoyos, L.R. (2006). "Shrinkage strain characterization of expansive soils using digital imaging technology." Book Chapter, Balkema, *Expansive Soils: Recent Advances in Characterization and Treatment*, Eds: A.A. Al-Rawas and M.F.A. Goosen, pp. 257-270.
33. Puppala, A.J., Kadam, R., Madhyannapu, R.S., and Hoyos, L.R. (2006). "Small-strain shear moduli of chemically stabilized sulfate bearing cohesive soils." Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 132(3), pp. 322-336.
34. Puppala, A.J., Katha, B., and Hoyos, L.R. (2004). "Volumetric shrinkage strain measurements in expansive soils using digital imaging technology." Geotechnical Testing Journal, ASTM, 27(6), pp. 547-556.
35. Puppala, A.J., Griffin, J.A., Hoyos, L.R., and Chomtid, S. (2004). "Studies on sulfate-resistant cement stabilization methods to address sulfate-induced soil heave." Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 130(4), pp. 391-402.
36. Hoyos, L.R., Arduino, P., and Macari, E.J. (2003). "Modeling elasto-plastic behavior of unsaturated soil using a controlled suction cubical test cell." Book Chapter, CRC Press, *Constitutive Modeling of Geomaterials*, Selected Contributions from Frank L. DiMaggio's Symposium, June 2-5, 2002, New York, New York, Eds: H.I. Ling, A. Anandarajah, M.T. Manzari, V.N. Kaliakin, and A. Smith, pp. 165-172.
37. Puppala, A.J., Ramakrishna, A.M., and Hoyos, L.R. (2003). "Resilient moduli of treated clays from repeated load triaxial test." Journal of the Transportation Research Board, TRR No. 1821, pp. 68-74.
38. Puppala, A.J., Wattanasanticharoen, E., and Hoyos, L.R. (2003). "Ranking of four chemical and mechanical stabilization methods to treat low-volume road subgrades in Texas." Journal of the Transportation Research Board, TRR No. 1819, vol. 2, pp. 63-71.

Refereed Journal Discussions and Closures

1. Puppala, A.J., Griffin, J.A., Hoyos, L.R., and Chomtid, S. (2005). *Closure to "Studies on sulfate-resistant cement stabilization methods to address sulfate-induced soil heave."* Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 131(11), pp. 1439-1441.
2. Robles, J., and Hoyos, L.R. (2004). *Discussion on "An elasto-plastic model for unsaturated soil incorporating the effects of suction and degree of saturation on mechanical behaviour,"* by D. Gallipoli, A. Gens, R. Sharma, and J. Vaunat. Géotechnique, 54(4), pp. 293-295.
3. Hoyos, L.R., and Macari, E.J. (2000). *Closure to "Influence of in situ factors on dynamic response of Piedmont residual soils."* Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 126(4), pp. 384-385.
4. Hoyos, L.R., and Macari, E.J. (1998). *Discussion on "Dynamic properties of Piedmont residual soils,"* by R.H. Borden, L. Shao, and A. Gupta. Journal of Geotechnical Engineering, ASCE, 124(6), pp. 551-555.

Refereed Articles in Special Publications and Conference Proceedings

1. Chittoori, S., Pedarla, A., Puppala, A.J., Hoyos, L.R., Nazarian, S., and Saride, S. (2011). "Leachate studies on lime and Portland cement treated expansive clays." In: *Advances in Geotechnical Engineering*, GSP 211, Geo-Institute of ASCE, CD-Rom Proceedings of Geo-Frontiers 2011, March 13-16, 2011, Dallas, Texas, Eds: J. Han and D.E. Alzamora, pp. 4479-4488.
2. Hoyos, L.R., Suescún, E.A., and Puppala, A.J. (2011). "Small-strain stiffness of unsaturated soils using a suction-controlled resonant column device with bender elements." In: *Advances in Geotechnical Engineering*, GSP 211, Geo-Institute of ASCE, CD-Rom Proceedings of Geo-Frontiers 2011, March 13-16, 2011, Dallas, Texas, Eds: J. Han and D.E. Alzamora, pp. 4313-4322.
3. Hoyos, L.R., Pérez-Ruiz, D.D., and Puppala, A.J. (2011). "Constitutive behavior of compacted clayey sand using a refined suction-controlled cubical test cell." In: *Advances in Geotechnical Engineering*, GSP 211, Geo-Institute of ASCE, CD-Rom Proceedings of Geo-Frontiers 2011, March 13-16, 2011, Dallas, Texas, Eds: J. Han and D.E. Alzamora, pp. 4303-4312.
4. Hoyos, L.R., Suescún, E.A., Pineda, J.A., and Puppala, A.J. (2010). "Small-strain stiffness of compacted silty sand using a proximator-based suction-controlled resonant column device." In: *Unsaturated Soils*, CRC Press/Balkema, Proceedings of the Fifth International Conference on Unsaturated Soils, September 6-8, 2010, Barcelona, Spain, Eds: E. Alonso and A. Gens, vol. 1, pp. 683-688.
5. Hoyos, L.R., Velosa, C.L., and Puppala, A.J. (2010). "Modeling unsaturated soil response under large deformations using a novel suction-controlled ring shear device." In: *Unsaturated Soils*, CRC Press/Balkema, Proceedings of the Fifth International Conference on Unsaturated Soils, September 6-8, 2010, Barcelona, Spain, Eds: E. Alonso and A. Gens, vol. 1, pp. 677-682.
6. Hoyos, L.R., Pérez-Ruiz, D.D., and Puppala, A.J. (2010). "Constitutive modeling of unsaturated soil behavior using a refined suction-controlled true triaxial cell: preliminary observations." In: *Unsaturated Soils*, CRC Press/Balkema, Proceedings of the Fifth International Conference on Unsaturated Soils, September 6-8, 2010, Barcelona, Spain, Eds: E. Alonso and A. Gens, vol. 1, pp. 671-676.
7. Hoyos, L.R., Perez-Ruiz, D.D., and Puppala, A.J. (2010). "Modeling unsaturated soil behavior under multiaxial stress paths using a refined suction-controlled cubical test cell." In: *Experimental and Applied Modeling of Unsaturated Soils*, GSP 202, Geo-Institute of ASCE, Proceedings of Sessions of GeoShanghai 2010, June 3-5, 2010, Shanghai, China, Eds: L.R. Hoyos, X. Zhang, and A.J. Puppala, pp. 40-47.
8. Hoyos, L.R., Velosa, C.L., and Puppala, A.J. (2010). "A novel suction-controlled ring shear testing apparatus for unsaturated soils." In: *Experimental and Applied Modeling of Unsaturated Soils*, GSP 202, Geo-Institute of ASCE, Proceedings of Sessions of GeoShanghai 2010, June 3-5, 2010, Shanghai, China, Eds: L.R. Hoyos, X. Zhang, and A.J. Puppala, pp. 32-39.
9. Pedarla, A., Chittoori, S., Puppala, A.J., Hoyos, L.R., and Saride, S. (2010). "Influence of lime dosage on stabilization effectiveness of montmorillonite dominant clays." In: *Advances in Modeling, Analysis & Design*, GSP 199, Geo-Institute of ASCE, CD-Rom Proceedings of GeoFlorida 2010, February 20-24, 2010, West Palm Beach, Florida, Eds: D. Fratta, A.J. Puppala, and B. Muhunthan, pp. 767-776.
10. Pineda, J.A., Hoyos, L.R., and Colmenares, J.E. (2010). "Stiffness response of residual and saprolitic soils using resonant column and bender element testing techniques." In: *Advances in Modeling, Analysis & Design*, GSP 199, Geo-Institute of ASCE, CD-Rom Proceedings of GeoFlorida 2010, February 20-24, 2010, West Palm Beach, Florida, Eds: D. Fratta, A.J. Puppala, and B. Muhunthan, pp. 783-792.

11. Hoyos, L.R., Perez-Ruiz, D.D., and Puppala, A.J. (2010). "A refined true triaxial cell for modeling unsaturated soil response under suction controlled stress paths." In: *Advances in Modeling, Analysis & Design*, GSP 199, Geo-Institute of ASCE, CD-Rom Proceedings of GeoFlorida 2010, February 20-24, 2010, West Palm Beach, Florida, Eds: D. Fratta, A.J. Puppala, and B. Muhunthan, pp. 381-389.
12. Chittoori, B.S., Puppala, A.J., Saride, S., Nazarian, S., and Hoyos, L.R. (2009). "Durability studies of lime stabilized clayey soils." *Proc., 17th International Conf. on Soil Mechanics and Geotechnical Engineering*, Millpress, October 5-9, 2009, Alexandria, Egypt, Eds: M. Hamza, M. Shahien, and Y. El-Mossallamy, vol. 3, pp. 2208-2211.
13. Hoyos, L.R., Laikram, A., Pérez-Ruiz, D., and Puppala, A.J. (2009). "Modeling unsaturated soil behavior under multiaxial stress states." *Proc., 17th International Conf. on Soil Mechanics and Geotechnical Engineering*, Millpress, October 5-9, 2009, Alexandria, Egypt, Eds: M. Hamza, M. Shahien, and Y. El-Mossallamy, vol. 1, pp. 182-185.
14. Puppala, A.J., Saride, S., Potturi, A., and Hoyos, L.R. (2009). "Resilient behavior of cement-fiber treated reclaimed asphalt pavement aggregates." In: *Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support*, GSP 187, Geo-Institute of ASCE, Selected Papers from the 2009 International Foundation Congress and Equipment Expo, March 15-19, 2009, Orlando, Florida, Eds: M. Iskander, D.F. Laefer, and M.H. Hussein, pp. 433-440.
15. Thomas, M.G., Puppala, A.J., and Hoyos, L.R. (2009). "Influence of swell pressure from expansive fill on retaining wall stability." In: *Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support*, GSP 187, Geo-Institute of ASCE, Selected Papers from the 2009 International Foundation Congress and Equipment Expo, March 15-19, 2009, Orlando, Florida, Eds: M. Iskander, D.F. Laefer, and M.H. Hussein, pp. 590-597.
16. Hoyos, L.R., Laikram, A., and Puppala, A.J. (2008). "A novel suction-controlled true triaxial apparatus for unsaturated soils." In: *Unsaturated Soils: Advances in Geo-Engineering*, CRC Press/Balkema, Proceedings of the First European Conference on Unsaturated Soils, July 2-4, 2008, Durham, U.K., Eds: D.G. Toll, C.E. Augarde, D. Gallipoli, and S.J. Wheeler, pp. 83-88.
17. Hoyos, L.R., and Arduino, P. (2008). "Parametric investigations on a three-invariant implicit integration algorithm for unsaturated soils." In: *Unsaturated Soils: Advances in Geo-Engineering*, CRC Press/Balkema, Proceedings of the First European Conference on Unsaturated Soils, July 2-4, 2008, Durham, U.K., Eds: D.G. Toll, C.E. Augarde, D. Gallipoli, and S.J. Wheeler, pp. 721-726.
18. Hoyos, L.R., Takkabutr, P., Puppala, A.J., and Hossain, M.S. (2008). "Dynamic response of unsaturated soils using resonant column and bender element testing techniques." In: *Geotechnical Earthquake Engineering and Soil Dynamics IV*, GSP 181, Geo-Institute of ASCE, CD-Rom Proceedings of a Specialty Conference, May 18-22, 2008, Sacramento, California, Eds: D. Zeng, M.T. Manzari, and D.R. Hiltunen, 8 pp.
19. Hoyos, L.R., Puppala, A.J., Ordonez, C., and Hossain, M.S. (2008). "Engineering characterization of cement-fiber treated RAP aggregates." In: *Characterization, Monitoring, and Modeling of GeoSystems*, GSP 179, Geo-Institute of ASCE, Proceedings of GeoCongress 2008, March 9-12, 2008, New Orleans, Louisiana, Eds: A.N. Alshawabkeh, K.R. Reddy, and M.V. Khire, pp. 613-621.
20. Rosenberk, R., Puppala, A.J., Williams, R., and Hoyos, L.R. (2008). "Characterization of compost amended soils." In: *Characterization, Monitoring, and Modeling of GeoSystems*, GSP 179, Geo-Institute of ASCE, Proceedings of GeoCongress 2008, March 9-12, 2008, New Orleans, Louisiana, Eds: A.N. Alshawabkeh, K.R. Reddy, and M.V. Khire, pp. 412-419.

21. Sirivitmaitrie, C., Puppala, A.J., Chikyala, V., Saride, S., and Hoyos, L.R. (2008). "Combined lime and cement treatment of expansive soils with low to medium soluble sulfate levels." In: *Geosustainability and Geohazard Mitigation*, GSP 178, Geo-Institute of ASCE, Proceedings of GeoCongress 2008, March 9-12, 2008, New Orleans, Louisiana, Eds: K.R. Reddy, M.V. Khire, and A.N. Alshawabkeh, pp. 646-653.
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25. Hoyos, L.R., Thudi, H.R., and Puppala, A.J. (2007). "Soil-water retention properties of cement treated clay." In: *Problematic Soils and Rocks and In Situ Characterization*, GSP 162, Geo-Institute of ASCE, CD-Rom Proceedings of Geo-Denver 2007, February 18-21, 2007, Denver, Colorado, Eds: A.J. Puppala, N. Hudyma, and W.J. Likos, 8 pp.
26. Potturi, A., Puppala, A.J., and Hoyos, L.R. (2007). "Resilient characteristics of cement treated reclaimed asphalt pavement aggregates." CD-Rom Proc., 86th TRB Annual Meeting, Transportation Research Board, January 21-25, 2007, Washington, D.C., 12 pp.
27. Hoyos, L.R., Laikram, A., and Puppala, A.J. (2006). "Behavior of chemically stabilized sulfate-rich expansive clay under quick-aging environment." In: *Ground Modification and Seismic Mitigation*, GSP 152, Geo-Institute of ASCE, Proceedings of GeoShanghai 2006, June 6-8, 2006, Shanghai, China, Eds: A. Porbaha, S-L. Shen, J. Wartman, and J-C. Chai, pp. 89-96.
28. Puppala, A.J., Potturi, A.K., Chomtid, S., Hoyos, L.R., and Bhadriraju, V. (2006). "Permanent strain measurements of compacted kaolinite clay." In: *Unsaturated Soils 2006*, GSP 147, Geo-Institute of ASCE, Proceedings of the Fourth International Conference on Unsaturated Soils, April 2-5, 2006, Carefree, Arizona, Eds: G.A. Miller, C.E. Zapata, S.L. Houston, and D.G. Fredlund, vol. 2, pp. 1821-1832.
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32. Hoyos, L.R., Laikram, A., and Puppala, A.J. (2005). "A novel true triaxial apparatus for testing unsaturated soils under suction-controlled multi-axial stress states." CD-Rom Proc., 16th International Conf. on Soil Mechanics and Geotechnical Engineering, Millpress, September 12-16, 2005, Osaka, Japan, pp. 387-390.
33. Hoyos, L.R., and Arduino, P. (2005). "Modeling response of unsaturated silty sand in three-invariant stress space." In: *Computational Fluid and Soil Mechanics 2005*, Elsevier, Proceedings of the Third MIT Conference on Computational Fluid and Solid Mechanics, June 14-17, 2005, Massachusetts Institute of Technology, Cambridge, Massachusetts, Ed: K.J. Bathe, pp. 256-260.
34. Hoyos, L.R., and Arduino, P. (2005). "Simulation of unsaturated soil behavior in three-invariant stress space." CD-Rom Proc., McMat2005: Joint ASME/ASCE/SES Conference on Mechanics and Materials, June 1-3, 2005, Louisiana State University, Baton Rouge, Louisiana, Eds: G.Z. Voyiadjis and R.J. Dorgan, 6 pp.
35. Hoyos, L.R., Laikram, A., and Puppala, A.J. (2005). "Assessment of seasonal effects on engineering behavior of chemically treated sulfate rich expansive clay." In: *Problematic Soils*, EMU Press, Proceedings of GEOPROB 2005: International Conference on Problematic Soils, May 25-27, 2005, Famagusta, North Cyprus, Eds: H. Bilsel and Z. Nalbantoglu, vol. 2, pp. 585-592.
36. Hoyos, L.R., Laikram, A., Park, J.H., and Puppala, A.J. (2005). "A novel suction-controlled true triaxial testing apparatus for unsaturated soils." In: *Problematic Soils*, EMU Press, Proceedings of GEOPROB 2005: International Conference on Problematic Soils, May 25-27, 2005, Famagusta, North Cyprus, Eds: H. Bilsel and Z. Nalbantoglu, vol. 1, pp. 131-138.
37. Hoyos, L.R., Takkabutr, P., and Puppala, A.J. (2005). "A pressure plate extractor device for assessment of SWCC under net radial confinement." In: *Problematic Soils*, EMU Press, Proceedings of GEOPROB 2005: International Conference on Problematic Soils, May 25-27, 2005, Famagusta, North Cyprus, Eds: H. Bilsel and Z. Nalbantoglu, vol. 1, pp. 123-130.
38. Chavva, P.K., Vanapalli, S.K., Puppala, A.J., and Hoyos, L.R. (2005). "Evaluation of strength, resilient moduli, swell, and shrinkage characteristics of four chemically treated sulfate soils from north Texas." In: *Innovations in Grouting and Soil Improvement*, GSP 136, Geo-Institute of ASCE, CD-Rom Proceedings of Geo-Frontiers 2005, January 24-26, 2005, Austin, Texas, Ed: E.M. Rathje, 10 pp.
39. Hoyos, L.R., Abdul Razzaq, I., Qasim, S.R, and Crosby, E. (2004). "Assessment of groundwater contamination hazard potential of underground PST facilities using GIS technology." In: *Integrated Management of Groundwater and Contaminated Land*, Thomas Telford, Proceedings of the Fourth BGA Geoenvironmental Engineering Conference, June 28-30, 2004, Stratford-Upon-Avon, U.K., Eds: R.N. Yong and H.R. Thomas, pp. 433-440.
40. Punthutaecha, K., Puppala, A.J., Hoyos, L.R., and Zimmie, T.F. (2004). "Recycled coal combustion ashes to control volumetric swell movements of expansive soils." Proc., 7th International Symposium on Environmental Geotechnology and Global Sustainable Development, June 8-10, 2004, Helsinki and Espoo, Finland, pp. 965-970.
41. Wang, L.B., Hoyos, L.R., Wang, J., Voyiadjis, G., and Abadie, C. (2004). "Anisotropic properties of asphalt concrete: Characterization and implications in pavement design and analysis." CD-Rom Proc., 83rd TRB Annual Meeting, Transportation Research Board, January 11-15, 2004, Washington, D.C., 30 pp.
42. Hoyos, L.R., Arduino, P., and Macari, E.J. (2003). "Modeling controlled-suction unsaturated soil response on deviatoric stress plane." CD-Rom Proc., EM2003: 16th ASCE Engineering Mechanics Conference, July 16-18, 2003, University of Washington, Seattle, Washington, 8 pp.

43. Puppala, A.J., Wattanasanticharoen, E., Intharasombat, N., and Hoyos, L.R. (2003). "Studies to understand effects of soil compositional and environmental variables on sulfate heave problems." In: *Soil and Rock America 2003*, Verlag Glückauf, Proceedings of 12th Pan-American Conference on Soil Mechanics and Geotechnical Engrg., June 22-26, 2003, Cambridge, Massachusetts, Eds: P.J. Culligan, A.J. Whittle, and H.H. Einstein, pp. 833-839.
44. Punthutaecha, K., Puppala, A.J., and Hoyos, L.R. (2003). "Relationships between total suction potential and free swell strain of fly ash stabilized expansive soils." Proc., UNSAT-ASIA 2003: Second Asian Conference on Unsaturated Soils, April 15-17, 2003, Osaka, Japan, pp. 155-160.
45. Hoyos, L.R., Arduino, P., and Macari, E.J. (2002). "Modeling elasto-plastic behavior of unsaturated soil using a controlled suction cubical test cell." CD-Rom Proc., EM2002: 15th ASCE Engineering Mechanics Conference, June 2-5, 2002, Columbia University, New York, New York, Ed: A.W. Smith, 8 pp.
46. Puppala, A.J., Wattanasanticharoen, E., Hoyos, L.R., and Satyanarayana, R. (2002). "Use of cone penetration test (CPT) results for accurate assessment of pile capacities." Proc., NICE2002: 9th International Conference on Piling and Deep Foundations, June 3-5, 2002, Nice, France, pp. 575-580.
47. Puppala, A.J., Griffin, J.A., Hoyos, L.R., and Chomtid, S. (2002). "Assessments of sulfate resistant stabilization methods to counter sulfate induced heave problems." CD-Rom Proc., 81st TRB Annual Meeting, Transportation Research Board, January 13-17, 2002, Washington, D.C., 29 pp.
48. Hoyos, L.R., and Macari, E.J. (2000). "Nature of principal strain response of unsaturated soils under multiaxial stress states." In: *Advances in Unsaturated Geotechnics*, GSP 99, Geo-Institute of ASCE, Proceedings of Geo-Denver 2000, August 5-8, 2000, Denver, Colorado, Eds: C.D. Shackelford, S.L. Houston, and N. Chang, pp. 333-343.
49. Puppala, A.J., Hoyos, L.R., Viyanant, C., and Musenda, C. (2000). "Fiber and fly ash stabilization methods to treat soft expansive soils." In: *Soft Ground Technology*, GSP 112, Geo-Institute of ASCE, Proceedings of the Soft Ground Technology Conference, May 28-June 2, 2000, Noordwijkerhout, Netherlands, Eds: J.L. Hanson and R.J. Termaat, pp. 136-145.
50. Schneider, J., Hoyos, L.R., Mayne, P.W., Macari, E.J., and Rix, G.J. (1999). "Field and laboratory measurements of dynamic shear modulus of Piedmont residual soils." In: *Behavioral Characteristics of Residual Soils*, GSP 92, Geo-Institute of ASCE, Proceedings of Geo-Congress 99, October 17-20, 1999, Charlotte, North Carolina, Ed: B. Edelen, pp. 12-25.
51. Hoyos, L.R., Macari, E.J., and Arduino, P. (1999). "True triaxial constitutive behavior of unsaturated soils." CD-Rom Proc., EM1999: 13th ASCE Engineering Mechanics Conference, June 13-16, 1999, Baltimore, Maryland, 6 pp.
52. Hoyos, L.R., Arduino, P., and Macari, E.J. (1999). "An implicit integration scheme for modeling constitutive behavior of unsaturated soils." Proc., Plasticity'99: 7th International Symposium on Plasticity and Its Current Applications, Neat Press, January 5-13, 1999, Cancún, Mexico, Ed: A.S. Khan, pp. 573-576.
53. Divakarla, P., Hoyos, L.R., and Macari, E.J. (1998). "Stability analysis of slopes in western Puerto Rico: A GIS approach." In: *Stability of Natural Slopes in the Coastal Plane*, GSP 77, Geo-Institute of ASCE, Proceedings of the ASCE Annual Convention, October 18-21, 1998, Boston, Massachusetts, Ed: T.R. Martin, pp. 59-68.
54. Divakarla, P., Hoyos, L.R., and Macari, E.J. (1998). "Assessment of liquefaction potential of western Puerto Rico." In: *Geotechnical Earthquake Engineering and Soil Dynamics III*, GSP 75, Geo-Institute of ASCE, Proceedings of a Specialty Conference, August 3-6, 1998, Seattle, Washington, Eds: P. Dakoulas, M. Yegian, and R.D. Holtz, vol. 1, pp. 530-541.

55. Hoyos, L.R., Arduino, P., and Macari, E.J. (1997). "Constitutive modeling of partially saturated soils." Proc., Plasticity'97: 6th International Symposium on Plasticity and Its Current Applications, Neat Press, July 14-18, 1997, Juneau, Alaska, Ed: A.S. Khan, pp. 311-312.
56. Hoyos, L.R., and Macari, E.J. (1995). "Dynamic properties of residual soils from Puerto Rico." Proc., 10th Pan-American Conference on Soil Mechanics and Geotechnical Engineering, October 25-28, 1995, Guadalajara, Mexico, pp. 264-275.

Non-Refereed Publications

1. Hoyos, L.R., and Arduino, P. (2006). "Unsaturated soil behavior under multi-axial stress states." CD-Rom Proc., VI South American Congress of Rock Mechanics and XI Colombian Congress of Geotechnics, October 8-13, 2006, Cartagena, Colombia, pp. 297-305.
2. Hoyos, L.R., Devabhaktuni, K., and Puppala, A.J. (2004). "Assessment of heave induced infrastructure distress hazard in expansive soil environments using GIS technology." CD-Rom Proc., ASCE Texas Section Spring 2004 Meeting, April 21-24, 2004, South Padre Island, Texas, 9 pp.
3. Hoyos, L.R., Sappington, IV, J.P., Laikram, A., and Puppala, A.J. (2004). "Effect of cyclic wetting-drying on strength, stiffness, and swell response of chemically treated clay." CD-Rom Proc., ASCE Texas Section Spring 2004 Meeting, April 21-24, 2004, South Padre Island, Texas, 10 pp.
4. Hoyos, L.R., Abdul Razzaq, I., Qasim, S.R, and Crosby, E. (2004). "Assessment of groundwater contamination hazard of petroleum storage tanks (PSTs) using GIS technology." CD-Rom Proc., ASCE Texas Section Spring 2004 Meeting, April 21-24, 2004, South Padre Island, Texas, 10 pp.
5. Hoyos, L.R., Arduino, P., and Macari, E.J. (2003). "Modeling unsaturated soil response on deviatoric plane." In: Applications of Computational Mechanics in Geotechnical Engineering, Proc., 4th International Workshop on Applications of Computational Mechanics in Geotechnical Engrg., August 18-20, 2003, Ouro Preto, Brazil, Eds: R.F. Azevedo, E.A. Vargas, L.R. Sousa, and M.M. Fernandes, pp. 283-288.
6. Hoyos, L.R., Puppala, A.J., and Chainuwat, P. (2002). "Stiffness of chemically stabilized sulfate rich expansive clays using resonant column device." Proc., ASCE Texas Section Spring 2002 Meeting, March 27-30, 2002, Arlington, Texas, pp. 93-102.

Select Research Reports

1. Hoyos, L.R. (2010). "Assessment of unsaturated soil response under large deformations via ring shear testing." Final Report (FastLane), Award # 0626090, December 2010, Sponsor: National Science Foundation, Arlington, Virginia, 10 pp.
2. Hoyos, L.R. (2008). "MRI Development of a strain/temperature/suction-controlled true triaxial testing device for modeling unsaturated soil behavior under multi-axial stress states." Final Report (FastLane), Award # 0216545, January 2008, Sponsor: National Science Foundation, Arlington, Virginia, 12 pp.

3. Potturi, A.K., Puppala, A.J., and Hoyos, L.R. (2007). "Evaluation of resilient modulus of cement and cement-fiber treated ReBase aggregates using repeated load triaxial test." Final Report, Project # 26 7602 91, Volume 2, January 2007, Sponsor: Texas Industries Inc. (TXI), Dallas, Texas, 120 pp.
4. Ordonez, C.A., Hoyos, L.R., and Puppala, A.J. (2007). "Engineering characterization of cement and cement-fiber treated ReBase aggregates for base/sub-base applications." Final Report, Project # 26 7602 91, Volume 1, January 2007, Sponsor: Texas Industries Inc. (TXI), Dallas, Texas, 57 pp.
5. Puppala, A.J., Wattanasanticharoen, E., Vempati, R., and Hoyos, L.R. (2005). "Experimental studies to address volume change behaviors of chemically treated sulfate bearing soils." Final Report (FastLane), Award # 0100255, December 2005, Sponsor: National Science Foundation, Arlington, Virginia, 318 pp.
6. Hoyos, L.R., Puppala, A.J., Sappington, IV, J.P., and Laikram, A. (2003). "Effects of cyclic wetting-drying on strength, stiffness and one-dimensional swell-shrink response of chemically stabilized sulfate-rich expansive clay from southeast Arlington, Texas." Final Report, Project # 26 8201 36, December 2003, Sponsor: City of Arlington, Texas, 69 pp.
7. Puppala, A.J., Mohan, V., and Hoyos, L.R. (2003). "Evaluation of resilient moduli characteristics of chemically treated soils from Arlington, Texas." Interim Report 3, Project # 26 8201 33, April 2003, Sponsor: City of Arlington, Texas, 95 pp.
8. Puppala, A.J., Chawa, P.K., and Hoyos, L.R. (2003). "Evaluation of strength, swell and shrinkage characteristics of chemically treated soils from Arlington, Texas." Interim Report 2, Project # 26 8201 33, April 2003, Sponsor: City of Arlington, Texas, 69 pp.
9. Puppala, A.J., Mohan, V., and Hoyos, L.R. (2003). "Laboratory investigations to calibrate instrumentation system for field monitoring of expansive subgrade soils." Interim Report 1, Project # 26 8201 33, April 2003, Sponsor: City of Arlington, Texas, 90 pp.
10. Hoyos, L.R., and Chainuwat, P. (2002). "Dynamic properties of chemically stabilized sulfate rich expansive clay from southeast Arlington, Texas using resonant column testing technique." Final Report, Project # 14 7487 07, Research Enhancement Program, March 2002, Sponsor: University of Texas at Arlington, Arlington, Texas, 56 pp.
11. Hoyos, L.R., Puppala, A.J., and Chainuwat, P. (2002). "Dynamic properties of chemically stabilized sulfate rich expansive clay from southeast Arlington, Texas using resonant column testing technique." Final Report, Project # 26 6801 12, March 2002, Sponsor: Cement and Concrete Promotion Council (CCPC) of Texas, Euless, Texas, 56 pp.
12. Puppala, A.J., Griffin, J.A., and Hoyos, L.R. (2001). "Evaluation of sulfate resistant and ordinary Portland cements for effective stabilization of natural sulfate rich subgrades." Final Report, Project # 26 6801 10, December 2001, Sponsor: Portland Cement Association (PCA), Skokie, Illinois, 108 pp.
13. Hoyos, L.R., Sheppard, B., Shao, Y., and Macari, E.J. (1999). "Results of resonant column testing program performed on sands from Memphis, TN, and West Memphis, AR." Interim Report, NSF-MAEC Project No. GT-1, Dynamic Properties of Mid-American Soils, April 1999, Sponsor: National Science Foundation, Arlington, Virginia, 17 pp.
14. Macari, E.J., Frost, J.D., Divakarla, P., and Hoyos, L.R. (1997). "Earthquake hazard assessment of western Puerto Rico." Final Report, June 1997, Sponsor: U.S. Geological Survey (USGS), Washington D.C., 212 pp.

Select Invited Presentations

(Not included as Publications)

1. *Advances in constitutive modeling of unsaturated soils using a refined suction-controlled true triaxial cell.* Polytechnic University of Catalonia (UPC), Sponsored by Department of Geotechnical Engineering and Geo-Sciences, May 20, 2011, Barcelona, Spain.
2. *Behavior of chemically stabilized sulfate-rich subgrade clays under quick aging environments.* INDEX 2009: International Conference on Infrastructure Development on Expansive Soils, Keynote Lecture, August 27, 2009, Hosur, India.
3. *Advances in experimental and computational modeling of unsaturated soil response under general stress states.* IGC 2008: Indian Geotechnical Conference, Keynote Lecture, December 17, 2008, Bangalore, India.
4. *Recent advances in expansive soil research.* First International Seminar on Technical Advances and Third National Civil Engineering Student Congress, Sponsored by Universidad del Sinú, May 9, 2008, Montería, Colombia.
5. *Recent advances in unsaturated soil research.* First International Seminar on Technical Advances and Third National Civil Engineering Student Congress, Sponsored by Universidad del Sinú, May 8, 2008, Montería, Colombia.
6. *Investigations on chemically treated expansive soils.* Dallas ASCE November 2006 Meeting, Sponsored by Geo-Institute of the ASCE, November 6, 2006, Dallas, Texas.
7. *Stiffness of partially saturated soils using RC and BE testing techniques.* Second National Civil Engineering Congress, Sponsored by Corporación Universitaria de la Costa (CUC), October 13, 2006, Barranquilla, Colombia.
8. *Investigations on chemically treated sulfate-rich expansive clays.* Second National Civil Engineering Congress, Sponsored by Corporación Universitaria de la Costa (CUC), October 13, 2006, Barranquilla, Colombia.
9. *Unsaturated soil behavior under multi-axial stress states.* VI South American Congress of Rock Mechanics and XI Colombian Congress of Geotechnics, Sponsored by Colombian Society of Geotechnical Engineering, October 12, 2006, Cartagena, Colombia.
10. *General response under suction controlled multi-axial stress states.* UNSAT 2006: Fourth International Conference on Unsaturated Soils, State-of-the-Art Panel on Laboratory Testing, April 3, 2006, Carefree, Arizona.
11. *Experimental and computational modeling of unsaturated soil response under true triaxial stress states.* Workshop on Nonlinear Modeling of Geotechnical Problems: From Theory to Practice, Sponsored by National Science Foundation, November 3, 2005, Johns Hopkins University, Baltimore, Maryland.
12. *State-of-the-art report on mechanical testing in unsaturated soils.* EXPERUS 2005: International Symposium on Advanced Experimental Unsaturated Soil Mechanics, State-of-the-Art Panel on Mechanical Testing, June 28, 2005, Trento, Italy.
13. *Effects of cyclic wetting-drying on engineering behavior of chemically modified expansive clay from southeast Arlington, Texas.* City of Arlington Public Works Department, Sponsored by City of Arlington, April 16, 2004, Arlington, Texas.

14. *A critique of current performance tests on chemically stabilized soils.* 82nd TRB Annual Meeting, Session 453, Sponsored by TRB Committee A2J02, January 14, 2003, Washington, D.C.
15. *Stiffness properties of chemically stabilized sulfate-rich expansive clay.* 66th Texas Society of Professional Engineers (TSPE) Meeting, Sponsored by TSPE, June 12, 2002, Arlington, Texas.
16. *Experimental and computational modeling of unsaturated soil constitutive behavior and its implications in highway engineering.* 81st TRB Annual Meeting, A2L06 Committee Meeting, Sponsored by TRB Committee A2L06, January 13, 2002, Washington, D.C.
17. *Experimental and computational modeling of elasto-plastic constitutive behavior of unsaturated soils.* Oklahoma Department of Transportation and University of Oklahoma, Sponsored by Oklahoma DOT, November 30, 2001, Norman, Oklahoma.
18. *Experimental and computational modeling of elasto-plastic constitutive behavior of unsaturated soils.* Arizona State University, Sponsored by ASU Department of Civil & Environmental Engineering, November 9, 2001, Tempe, Arizona.
19. *Behavior of unsaturated soils under true triaxial stress states.* ASCE Texas Section Fall 2000 Meeting, Sponsored by ASCE Texas Section Geotechnical Committee, October 6, 2000, El Paso, Texas.
20. *Applied unsaturated soil mechanics in highway engineering.* 25th Southwest Geotechnical Conference, Sponsored by Federal Highway Administration (FHWA) and Texas DOT, April 18, 2000, Arlington, Texas.
21. *Laboratory characterization of residual soils under dynamic loading.* National Science Foundation/EPSCoR Meeting, Sponsored by the Civil Infrastructure Research Center of the University of Puerto Rico at Mayaguez, April 24, 1994, San Juan, Puerto Rico.

Invited Short Courses

1. *Modeling constitutive behavior of partially saturated soils.* Two-week Summer Course, Sponsored by the Department of Civil and Agricultural Engineering, Universidad Nacional de Colombia, August 4-15, 2008, Bogotá, Colombia.
2. *Constitutive behavior of partially saturated soils.* Two-week Summer Course, Sponsored by the International Summer School Program, Universidad de los Andes, May 22-June 1, 2007, Bogotá, Colombia.
3. *Soil mechanics applied to highway construction.* Continuing Education Seminar, Puerto Rico Department of Transportation, Sponsored by the Technology Transfer in Transportation Center, University of Puerto Rico at Mayaguez, May 8-9, 1994, San Juan, Puerto Rico.

Conference Sessions Chaired

1. Session Chair, *Ground Improvement II*, Geo-Frontiers 2011: Annual Congress of the Geo-Institute of ASCE, March 15, 2011, Dallas, Texas.
2. Session Chair, *Ground Improvement I*, Geo-Frontiers 2011: Annual Congress of the Geo-Institute of ASCE, March 15, 2011, Dallas, Texas.
3. Session Chair, *Modelling – Analytical and Numerical Modeling*, UNSAT 2010: Fifth International Conference on Unsaturated Soils, September 6, 2010, Barcelona, Spain.
4. Session Chair, *Ground Improvement III – Behavior of Modified Soil*, GeoShanghai 2010 International Conference, June 5, 2010, Shanghai, China.
5. Session Chair, *Unsaturated Soils – Applied Modeling II*, GeoShanghai 2010 International Conference, Co-Chair: A.J. Puppala, June 5, 2010, Shanghai, China.
6. Session Chair, *Unsaturated Soils – Applied Modeling I*, GeoShanghai 2010 International Conference, Co-Chair: A.J. Puppala, June 4, 2010, Shanghai, China.
7. Session Chair, *Unsaturated Soils – General Characterization*, GeoShanghai 2010 International Conference, Co-Chair: A.J. Puppala, June 3, 2010, Shanghai, China.
8. Session Chair, *Problem Soils – Swelling Soils I*, IFCEE 2009: International Foundation Congress and Equipment Expo, March 18, 2009, Orlando, Florida.
9. Session Chair, *Dynamic Properties I*, GEESD IV: Fourth Geotechnical Earthquake Engineering and Soil Dynamics Conference, Co-Chair: Y-H. Wang, May 19, 2008, Sacramento, California.
10. Session Chair, *Characterization of Problematic Soils and Rocks*, GeoCongress 2008: Annual Congress of the Geo-Institute of ASCE, Co-Chair: A. Cerato, March 10, 2008, New Orleans, Louisiana.
11. Session Chair, *Mini Symposium on Characterization of Problematic Soils*, Geo-Denver 2007: Annual Congress of the Geo-Institute of ASCE, Co-Chair: W.J. Likos, February 20, 2007, Denver, Colorado.
12. Session Moderator, *Field Applications of Unsaturated Soil Mechanics*, Keynote Lecture by Prof. Eduardo Alonso, GeoShanghai 2006 International Conference, June 8, 2006, Shanghai, China.
13. Session Chair, *Applied Unsaturated Soil Mechanics in Geotechnical Engineering*, GeoShanghai 2006 International Conference, Co-Chair: N. Lu, June 8, 2006, Shanghai, China.
14. Session Chair, *Laboratory Studies – Collapse/Shrinking Soils*, UNSAT 2006: Fourth International Conference on Unsaturated Soils, Co-Chair: N. Ravichandran, April 5, 2006, Carefree, Arizona.

Professional Service

Committee Memberships - International Level

- Member, Technical Committee, PANAM-UNSAT 2013: First Pan-American Conference on Unsaturated Soils, Sponsored by Geo-Institute of ASCE, February 20-22, 2013, Cartagena, Colombia.
- Member, Technical Advisory Committee, E-UNSAT 2012: Second European Conference on Unsaturated Soils, Sponsored by International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE), June 20-22, 2012, Napoli, Italy.
- Member, International Advisory Committee, UNSAT 2010: Fifth International Conference on Unsaturated Soils, Sponsored by International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE), September 6-8, 2010, Barcelona, Spain.
- Member, Technical Committee, GeoShanghai 2010 International Conference, Sponsored by Geo-Institute of ASCE, June 3-5, 2010, Shanghai, China.
- Member, International Advisory Committee, 12th Conference of the International Association for Computer Methods and Advances in Geomechanics, October 1-6, 2008, Goa, India.
- Member, Technical Committee, ACE 2008: 8th International Congress on Advances in Civil Engineering, September 15-17, 2008, Eastern Mediterranean University, Famagusta, N. Cyprus.
- Member, Technical Committee, GeoShanghai 2006 International Conference, Sponsored by Geo-Institute of ASCE, June 6-8, 2006, Shanghai, China.
- Member, Technical Committee, UNSAT 2006: Fourth International Conference on Unsaturated Soils, Sponsored by Geo-Institute of ASCE, April 2-5, 2006, Carefree, Arizona.
- Member, Technical Committee, EXPERUS 2005: International Symposium on Advanced Experimental Unsaturated Soil Mechanics, Sponsored by International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE), June 27-29, 2005, Trento, Italy.

Committee Memberships - National Level

- Member and Vice-Chair, Unsaturated Soils Committee, The Geo-Institute of ASCE, Reston, Virginia, October 2007 - Pres.
- Member, Engineering Geology & Site Characterization Committee, The Geo-Institute of ASCE, Reston, Virginia, March 2009 - Pres.
- Member, Soil Properties & Modeling Committee, The Geo-Institute of ASCE, Reston, Virginia, February 2002 - Pres.
- Member, Committee AFS90, Chemical and Mechanical Stabilization of Soils, Transportation Research Board (TRB), National Academy of Sciences, Washington D.C., February 2002 - April 2010.
- Member, Committee AFP60, Engineering Behavior of Unsaturated Soils, Transportation Research Board (TRB), National Academy of Sciences, Washington D.C., March 2001 - April 2010.

Other Service Activities – National Level

- Invited Panelist, NSF Review Panel, Course, Curriculum and Laboratory Improvement Program, National Science Foundation, Arlington, Virginia, January 31-February 1, 2005.
- Invited Panelist and Chair, NSF Review Panel, Math and Science Partnership Program, National Science Foundation, Arlington, Virginia, February 8-10, 2004.
- Invited Panelist, NSF Review Panel, Geoenvironmental Engineering and Geohazards Program, National Science Foundation, Arlington, Virginia, November 22, 2002.
- Invited Panelist, NSF Review Panel, Math and Science Partnership Program, National Science Foundation, Arlington, Virginia, June 9-11, 2002.
- Invited Panelist, NSF Review Panel, Graduate Teaching Fellows in K-12 Program, National Science Foundation, Arlington, Virginia, October 18-19, 2001.
- Invited Panelist, NSF Review Panel, Geomechanics and Geotechnical Systems Program, National Science Foundation, Arlington, Virginia, April 4-5, 2001.

University Service

Administrative Positions – University Level

- Associate Dean, Honors College, University of Texas at Arlington, September 2008 – August 2009.

Committee Memberships – University Level

- Member, McNair Program Selection Committee, University of Texas at Arlington, September 2005 – Present.
- Member, Institutional Review Board (IRB), University of Texas at Arlington, December 2006 – November 2009.

Other Service Activities – University Level

- Faculty Judge, Honors Undergraduate Research and Creative Activity Symposium (HURCA), Sponsored by Honors College, University of Texas at Arlington, April 15, 2011.
- Faculty Judge, Annual Celebration of Excellence by Students (ACES), Sponsored by Graduate School, University of Texas at Arlington, March 24, 2011.
- Faculty Judge, NSF GK-12 MAVS Program (ACES Special Session), Sponsored by Graduate School and Department of Mathematics, University of Texas at Arlington, March 23, 2011.
- Faculty Judge, Honors Undergraduate Research and Creative Activity Symposium (HURCA), Sponsored by Honors College, University of Texas at Arlington, April 16, 2010.

- Faculty Judge, *Annual Celebration of Excellence by Students (ACES)*, Sponsored by Graduate School, University of Texas at Arlington, March 25, 2010.
- Faculty Judge, *Honors Undergraduate Research and Creative Activity Symposium (HURCA)*, Sponsored by Honors College, University of Texas at Arlington, April 10, 2009.
- Faculty Judge, *Annual Celebration of Excellence by Students (ACES)*, Sponsored by Graduate School, University of Texas at Arlington, March 26, 2009.
- Faculty Judge, *Honors Undergraduate Research and Creative Activity Symposium (HURCA)*, Sponsored by Honors College, University of Texas at Arlington, November 14, 2008.
- Faculty Judge, *Honors Undergraduate Research and Creative Activity Symposium (HURCA)*, Sponsored by Honors College, University of Texas at Arlington, April 11, 2008.
- Faculty Judge, *Honors Undergraduate Research and Creative Activity Symposium (HURCA)*, Sponsored by Honors College, University of Texas at Arlington, November 9, 2007.
- Faculty Judge, *Honors Undergraduate Research and Creative Activity Symposium (HURCA)*, Sponsored by Honors College, University of Texas at Arlington, April 13, 2007.
- Faculty Judge, *Honors Undergraduate Research and Creative Activity Symposium (HURCA)*, Sponsored by Honors College, University of Texas at Arlington, November 3, 2006.
- Faculty Judge, *Honors Undergraduate Research and Creative Activity Symposium (HURCA)*, Sponsored by Honors College, University of Texas at Arlington, November 5, 2005.
- Faculty Judge, *Annual Celebration of Excellence by Students (ACES)*, Sponsored by Graduate School, University of Texas at Arlington, April 1, 2005.
- Faculty Judge, *Honors Undergraduate Research and Creative Activity Symposium (HURCA)*, Sponsored by Honors College, University of Texas at Arlington, November 6, 2004.
- Faculty Judge, *Annual Celebration of Excellence by Students (ACES)*, Sponsored by Graduate School, University of Texas at Arlington, March 28, 2003.
- Faculty Judge, *Symposium for Undergraduate Research and Creative Activity (SURCA)*, Sponsored by Honors College, University of Texas at Arlington, April 3, 2002.
- Faculty Judge, *Graduate Research Symposium*, Sponsored by Graduate School, University of Texas at Arlington, March 28, 2002.
- Faculty Judge, *Graduate Student Research Forum*, Sponsored by Graduate School, University of Texas at Arlington, March 29, 2000.

Faculty Advisorships – College Level

- Faculty Advisor, *Student Chapter, Texas Society of Professional Engineers (TSPE)*, University of Texas at Arlington, September 2007 – August 2010.
- Faculty Advisor, *Student Chapter, Society of Hispanic Professional Engineers (SHPE)*, University of Texas at Arlington, January 2001 – August 2009.

Other Service Activities - College Level

- Faculty Grader, *Junior High School MathCounts Competition*, Sponsored by Texas Society of Professional Engineers (TSPE), February 17, 2007.
- Faculty Judge, *National Engineers Week Future City Competition*, Sponsored by IEEE - Fort Worth Section, January 27, 2007.
- Faculty Grader, *Junior High School MathCounts Competition*, Sponsored by Texas Society of Professional Engineers (TSPE), February 21, 2004.
- Faculty Judge, *National Engineers Week Future City Competition*, Sponsored by IEEE - Fort Worth Section, January 24, 2004.
- Faculty Grader, *Junior High School MathCounts Competition*, Sponsored by Texas Society of Professional Engineers (TSPE), February 8, 2003.
- Faculty Judge, *Exxon-Mobil Texas Science and Engineering Fair*, Arlington Convention Center, Arlington, Texas, April 12, 2002.
- Faculty Grader, *Junior High School MathCounts Competition*, Sponsored by Texas Society of Professional Engineers (TSPE), February 9, 2002.
- Faculty Grader, *Junior High School MathCounts Competition*, Sponsored by Texas Society of Professional Engineers (TSPE), February 10, 2001.

Committee Memberships - Departmental Level

- Chair, ABET Task Team, *Learning Outcomes c & d*, Department of Civil Engineering, UTA, September 2006 - Pres.
- Chair, Graduate Studies Steering Committee, Department of Civil Engineering, UTA, September 2007 - August 2009.
- Chair, ABET Task Team, *Two-years-out alumni & employer questionnaires*, Department of Civil Engineering, UTA, September 2003 - August 2006.

Other Service Activities - Departmental Level

- Member, Search Committee, *Environmental Faculty Position*, Department of Civil Engineering, UTA, September 2007 - May 2008.
- Member, Search Committee, *Senior Lecturer Faculty Position*, Department of Civil Engineering, UTA, January 2007 - August 2007.
- Member, Search Committee, *Construction Management Faculty Position*, Department of Civil Engineering, UTA, August 2005 - August 2006.
- Member, Search Committee, *Geotechnical & Structures Faculty Positions*, Department of Civil Engineering, UTA, September 2003 - August 2004.

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