

# **LINDSEY SEBASTIAN BRYSON, PH. D., P.E., D. GE., F. ASCE**

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## **EDUCATION**

### **NORTHWESTERN UNIVERSITY**

December 2002

Evanston, IL

Doctor of Philosophy, Civil Engineering

Dissertation: Performance of a Stiff Excavation Support System in Soft Clay and the Response of an Adjacent Building

### **HOWARD UNIVERSITY**

May 1992

Washington, DC

Master of Engineering, Civil Engineering

Thesis: Contaminant Migration through a Seasonally Freezing and Thawing Soil

### **FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY**

May 1987

Tallahassee, FL

Bachelor of Science, Civil Engineering

## **REGISTRATIONS**

- Diplomate, Geotechnical Engineering (D.GE) certification, 01421
- Registered Professional Engineer: Kentucky, 30411
- Registered Professional Engineer: Wisconsin, 31821
- Registered Professional Engineer: Illinois, 062-051411
- Registered Professional Engineer: Ohio, E-61245
- Registered Professional Engineer: Indiana, PE19700163
- Registered Professional Engineer: Michigan, 6201043753

## **ACADEMIC EXPERIENCE**

### **DEPARTMENT CHAIR**

2022 to Present

Department of Civil Engineering, University of Kentucky

### **Duties and Accomplishments**

- I am the focal point of the Department-level philanthropic activities.
- I am responsible for developing the strategic vision for the Department.
- I have responsibility for leading in the development and the implementation of the Department's policies and programs.
- I am responsible for recommendations on the appointment of new faculty members of the Department, promotions, reappointments, terminal appointments, post-retirement appointments, the granting of tenure, and decisions not to reappoint.
- Oversee an annual operating expenditure of approximately \$4.2 million per year.
- Oversee annual research expenditures of approximately \$3 million per year.

- My faculty and staff direct reports include 7 staff members and 24 faculty.
- In two academic years I added two new junior faculty, an academic affairs officer, and a financial analyst.
- Reorganized the Department around the four strategic research focus areas: Natural Hazards Engineering; Natural, Managed, and Disturbed Ecosystems; Intelligent Infrastructure Systems, and Resilient and Sustainable Infrastructure.
- Directed complete overhaul of website, brochures and flyers promoting focus areas, technical talks and student recruitment materials promoting focus areas.
- Developed and implemented strategy to cluster resources to support new research initiatives, resulting in the development of three research proposals with budgets greater than \$1 million annually.
- Increased the graduate program from 22 MS students and 23 PhD students to approximately 40 MS students and 27 PhD students.
- Raised roughly \$30,000 in general scholarship funds, approximately \$20,000 in facilities support funds, and approximately \$100,000 to support outreach activities.

**DIRECTOR OF GRADUATE STUDIES**

2021 to 2022

Department of Civil Engineering, University of Kentucky

Duties and Accomplishments

- Acted as the official liaison with the Graduate School.
- Responsible for the administration of the graduate program, including maintenance of records, administration of graduate program funds, admission of graduate students, fellowships, program requirement changes and new programs, advising and registration, appointment of advisory and examination committees, and other degree requirements related to the graduate program.
- Served as the focal point for dissemination of information from the Graduate School.
- Served on the Department's leadership team along with the Department Chair, the Director of Undergraduate Studies (DUS), and the chairs of the Department-level committees.
- Worked closely with the Department Chair on decisions involving Departmental budget concerns, faculty and staff issues, strategic planning for the Department, and industry engagement.

**PROFESSOR (JOINT APPOINTMENT)**

2021 to Present

Department of Earth and Environmental Sciences, University of Kentucky

**PROFESSOR**

2021 to Present

Department of Civil Engineering, University of Kentucky

**HARDIN-DRNEVICH-HUANG PROFESSOR OF CIVIL ENGINEERING**

2013 to Present

Department of Civil Engineering, University of Kentucky

**ASSOCIATE PROFESSOR (JOINT APPOINTMENT)**

2019 to 2021

Department of Earth and Environmental Sciences, University of Kentucky

**ASSOCIATE PROFESSOR**

2012 to 2021

Department of Civil Engineering, University of Kentucky

**ASSISTANT PROFESSOR**

2006 to 2012

Department of Civil Engineering, University of Kentucky

**ASSISTANT PROFESSOR**

2002 to 2006

Ohio University, Department of Civil Engineering

**Classes Taught at the University of Kentucky**

**Undergraduate Courses Taught:**

CE 579 Geotechnical Engineering  
CE 120 Introduction to Civil Engineering  
EGR 199 Introduction to Research

**Graduate Courses Taught:**

CE 671 Advanced Soil Mechanics  
CE 673 Stability of Earth Slopes  
CE 676 Groundwater and Seepage  
CE 699 Soil Dynamics  
CE 779 Advanced Geotechnical Engineering

**Classes Taught at Ohio University**

**Undergraduate Courses Taught:**

CE 222 Strength of Materials  
CE 301 Applied Mechanics  
CE 370 Geotechnical Engineering  
CE 371 Soils Engineering Lab  
CE 471 Foundation Engineering

**Graduate Courses Taught:**

CE 572 Soil Mechanics I  
CE 573 Soil Mechanics II  
CE 575 Advanced Foundation Engineering  
CE 476/576 Soil Stabilization

**GENERAL ELECTRIC FACULTY INTERN**

2000 to 2001

Northwestern University, Department of Civil Engineering

Taught laboratory portion and delivered several lectures of CE 250 Introductory Soil Mechanics.

**RESEARCH ASSISTANT**

1999 to 2000

Northwestern University, Department of Civil Engineering

Installed instrumentation to monitor a braced excavation in soft clay. Installed instrumentation in the building adjacent to the excavation and monitored movement and subsequent damage resulting from excavation- and construction-related activities. Developed criteria to reduce excavation-related damage to buildings adjacent to deep excavations.

**TEACHING ASSISTANT**

1998 to 1999

Northwestern University, Department of Civil Engineering

Taught laboratory portion and delivered several lectures of CE 250 Introductory Soil Mechanics. Taught laboratory portion of CE 351 Engineering Properties of Soils. Delivered several lectures of CE 352 Foundation Engineering. Assisted students and professor for CE 302 Engineering Law.

**RESEARCH ASSISTANT**

1990 to 1991

Howard University, Department of Civil Engineering

Managed the geotechnical engineering research laboratory. Supervised and coordinated the updating of all soil testing equipment. Conducted various geotechnical research experiments. Supervised several summer students.

**TEACHING ASSISTANT**

1989 to 1990

Howard University, Department of Civil Engineering

Taught laboratory portion of 302-434 Soil Mechanics. Assisted students and Class Instructor for 302-349 Analysis Methods in Civil Engineering.

**EXTERNAL GRANTS AND FUNDING**

Geophysical and Geotechnical Methods Leading to Characterizing Ground Strength  
Investigators: L. Sebastian Bryson (PI)

2021 to 2023

Sponsor: U.S. Air Force Research Laboratory through University of Dayton Research Institute  
Award Amount: \$555,108

Development of a Geophysics-Based Multiphase Constitutive Model (Incremental) 2021 to 2022  
Investigator: L. Sebastian Bryson (PI)  
Sponsor: U.S. Army Research Office  
Award Amount: \$89,995

Research Leading to Forecasting of Sinkholes using Satellite Data 2020 to 2021  
Investigator: L. Sebastian Bryson (PI)  
Sponsor: NASA Kentucky Space Grant  
Award Amount: \$90,000

Dwight David Eisenhower Transportation Fellowship Program (DDETFP) 2020 to 2021  
Investigator: L. Sebastian Bryson (PI)  
Sponsor: Federal Highway Administration  
Award Amount: \$5,000

Theoretical Modeling and Experimental Correlation of Geophysical and Geotechnical Methods Leading to  
Characterizing Ground Strength 2019 to 2020  
Investigators: L. Sebastian Bryson (PI)  
Sponsor: U.S. Air Force Research Laboratory through University of Dayton Research Institute  
Award Amount: \$76,647

Using Satellite Data to Develop Rainfall-Induced Landslide Susceptibility and  
Forecasting Models 2019 to 2020  
Investigators: L. Sebastian Bryson (PI)  
Sponsor: National Aeronautics and Space Administration  
Award Amount: \$86,575

National Institute of Hometown Security Residual Fund Balance 2015 to 2018  
Investigators: L. Sebastian Bryson (PI)  
Sponsor: National Institute of Hometown Security  
Award Amount: \$292,421

KHIT 83, Field Trials of Non-Nuclear Methods for Compaction 2014 to 2015  
Investigators: L. Sebastian Bryson (PI)  
Sponsor: KY Transportation Cabinet  
Award Amount: \$10,916

Studying Distribution System Hydraulics and Flow Dynamics to Improve Water Utility Operational Decision  
Making 2011 to 2015  
Investigators: Lindell Ormsbee (PI), L. Sebastian Bryson (co-PI), and Scott Yost  
Sponsor: National Institute of Hometown Security  
Award Amount: \$1,980,253

Assessment and Mitigation of Waterside Attacks on Dams 2010 to 2013  
Investigators: L. Sebastian Bryson (PI), Michael Kalinski, Lindell Ormsbee, Braden Lusk, and Kamyar Mahboub  
Sponsor: National Institute of Hometown Security  
Award Amount: \$2,734,054

Geotechnical Engineering Technical Review and Modeling 2011 to 2012

- Investigator: L. Sebastian Bryson (PI) and Michael Kalinski  
Sponsor: Kentucky Energy and Environment Cabinet  
Award Amount: \$49,463
- NSF/EPSCoR: Insitu Moisture Content from Measurements of the Complex Dielectric Constant in Soils 2010 to 2011  
Investigator: L. Sebastian Bryson (PI)  
Sponsor: National Science Foundation  
Award Amount: \$5,000
- Evaluation of Non-Nuclear Methods for Compaction Quality Control 2009 to 2011  
Investigators: Clark Graves (PI) and L. Sebastian Bryson (co-PI)  
Sponsor: Kentucky Transportation Cabinet  
Award Amount: \$225,000
- Analysis of Wolf Creek Dam Rehabilitation Project 2008 to 2009  
Investigators: Michael Kalinski (PI), L. Sebastian Bryson, and Edward Woolery  
Sponsor: Office of the President, University of Kentucky  
Award Amount: \$200,000
- Dynamic, Distributed Real-Time System for Geosystems Health Monitoring 2008 to 2009  
Investigators: L. Sebastian Bryson (PI)  
Sponsor: Kentucky Science and Engineering Foundation (KSEF)  
Award Amount: \$19,963
- Research Experience for Undergraduates (REU) Supplement 2007 to 2008  
Investigators: L. Sebastian Bryson (PI)  
Sponsor: National Science Foundation  
Award Amount: \$12,000
- Shear Strength of Clay and Silt Embankments 2007 to 2010  
Investigators: L. Sebastian Bryson (PI), Terry Masada (co-PI)  
Sponsor: Ohio Department of Transportation  
Award Amount: \$345,000
- Deformation Based Design Methodology for Excavation Support Systems 2006 to 2009  
Investigators: L. Sebastian Bryson (PI)  
Sponsor: National Science Foundation  
Award Amount: \$155,000
- Transport and Fate of Nanoparticles in Groundwater 2005 to 2006  
Investigators: L. Sebastian Bryson (PI), Guy Reifler (co-PI)  
Sponsor: Water Resources Research Institute  
Award Amount: \$19,899
- MRPG: Geotechnical Parameters of Soil Using Electrical Sensor Technology 2003  
Investigators: L. Sebastian Bryson (PI)  
Sponsor: National Science Foundation  
Award Amount: \$18,000
- GE Faculty Intern Research Initiation Faculty Coupon 2001 to 2002  
Investigators: L. Sebastian Bryson (PI)

Sponsor: GE Foundation  
Award Amount: \$15,000

## **INTERNAL GRANTS AND FUNDING**

Assessment of Landslides using Satellite-Based Data Investigators: L. Sebastian Bryson (PI) UK Office of Undergraduate Research, Summer Sustainability Research Award Amount: \$2,500	2020
Predicting Landslides in Kentucky Investigators: L. Sebastian Bryson (PI) UK Office of Undergraduate Research, Bucks for Brains Research Grant Award Amount: \$4,000	2019
Model Dam Research Investigators: L. Sebastian Bryson (PI) Bucks for Brains Research Grant Award Amount: \$4,000	2018
Geothermal Energy System in Shale Formations in Kentucky Investigators: L. Sebastian Bryson (PI) UK Office of Undergraduate Research, Summer Sustainability Research Award Amount: \$2,500	2017
Assessment of Infrastructure Deformation using Digital Photogrammetry Investigators: L. Sebastian Bryson (PI) Kentucky Young Researchers Program (KYRP) Award Amount: \$1,000	2017
Upgrade of Undergraduate Consolidation Testing Equipment Investigators: L. Sebastian Bryson (PI) Research Incentive and HDH Funds Award Amount: \$3,100	2016
Purchase of Triaxial Data Acquisition Sensor and Software Investigators: L. Sebastian Bryson (PI) Palmer Engineering Civil Engineering Laboratory Endowment Fund Award Amount: \$2,860	2007
RoboPaver: Autonomous Robotic Concrete Paving Demonstration Investigators: Robert Williams II (PI), L. Sebastian Bryson (co-PI), Daniel Castro (co-PI), Ohio University Research Committee Award Award Amount: \$7,000	2005
Generalized Theory for the Behavior of Fly Ash-Modified Soils Investigators: L. Sebastian Bryson (PI) Ohio University Research Challenge Award Award Amount: \$6,000	2005
Funding to attend International Conference Investigators: L. Sebastian Bryson (PI)	2005

Stocker Faculty Enrichment Fund  
Award Amount: \$1,245

Geotechnical Parameters of Soils Using Sensor Technology 2004  
Investigators: L. Sebastian Bryson (PI)  
Ohio University Research Challenge Award  
Award Amount: \$6,000

Funding to attend National Conference 2004  
Investigators: L. Sebastian Bryson (PI)  
Stocker Faculty Enrichment Fund  
Award Amount: \$865

Response of Foundation Systems to Severe Events 2003  
Investigators: L. Sebastian Bryson (PI)  
Ohio University Research Challenge Award  
Award Amount: \$6,000

Funding to attend International Conference 2003  
Investigators: L. Sebastian Bryson (PI)  
Stocker Faculty Enrichment Fund  
Award Amount: \$1,500

Funding to attend National Conference 2003  
Investigators: L. Sebastian Bryson (PI)  
Stocker Faculty Enrichment Fund  
Award Amount: \$700

Funding to attend Cone Penetrometer Testing Short Course 2002  
Investigators: L. Sebastian Bryson (PI)  
Stocker Faculty Enrichment Fund  
Award Amount: \$980

Purchase of Undergraduate Laboratory Equipment 2002  
Investigators: L. Sebastian Bryson (PI)  
Ohio House Bill Funds  
Award Amount: \$3,300

## **GRANTS AND FUNDING IN REVIEW**

EPSCoR RII Track-1: Climate Resilience through Multidisciplinary Big Data Learning, Prediction & Building  
Response Systems (CLIMBS) 2024  
Investigators: Rodney Andrews (PI), L. Sebastian Bryson (co-PI), Michael McGlue (co-PI), Edward Woolery (co-  
PI), Czarena Crofcheck (co-PI)  
Sponsor: National Science Foundation  
Award Amount: \$24,000,000

## **REFEREED JOURNAL ARTICLES**

1. Unluoglu, H.A.<sup>1</sup>, Bryson, L.S., and Rose, J.G. (2023). "Predicting Dynamic Contact Stresses at Crosstie-Ballast Interface Based on Basic Train Characteristics," *Journal of Transportation Engineering, Part A: Systems*, in print.
2. Bryson, L.S., Mahmoodabadi, M.<sup>1</sup>, and Gomez-Gutierrez, I.C. (2023). "Mechanical Behavior of Weathered Compacted Shales," *Journal of Geotechnical and Geological Engineering*, Springer, 10.1007/s10706-023-02657-5.
3. Adama, D., Bryson, L.S., and Wang, A. (2023). "Airfield suitability assessment from geophysical methods," *Transportation Geotechnics*, 42, (2023), 101059. <https://doi.org/10.1016/j.trgeo.2023.101059>
4. Francis, D.M.<sup>1</sup>, and Bryson, L.S. (2023). "Proposed Methodology for Site Specific Soil Moisture Obtainment Utilizing Coarse Satellite-Based Data," *Environmental Earth Sciences*, 82(15), 377. <https://doi.org/10.1007/s12665-023-11057-0>.
5. Unluoglu, H.A.<sup>1</sup>, Bryson, L.S., and Rose, J.G. (2023). "Stress Distribution in a Railroad Track at the Crosstie-Ballast Interface," *Journal of Transportation Engineering, Part A: Systems*, ASCE, 149(8), 04023074.
6. Romana Giraldo, J.<sup>1</sup>, and Bryson, L.S. (2023). "Geophysics-based approach to predict triaxial undrained and drained compressive behavior in soft soils," *Journal of Applied Geophysics*, 213, 105022.
7. Johnson, S.E.<sup>1</sup>, Haneberg, W.C., Bryson, L.S., and Crawford, M.M. (2023). "Measuring ground surface elevation changes in a slow-moving colluvial landslide using combinations of regional airborne lidar, UAV lidar, and UAV photogrammetric surveys," *Quarterly Journal of Engineering Geology and Hydrogeology*, 56(2), qjgeh2022-078.
8. Palacio-Betancur, A, Hormozabad, S.J., Niman, C., Masterson, P., Sturlaugson, B., Brewer, J., Swetnam, B., Bryson, L.S., Gutierrez Soto, M. (2023). "Compressive properties of cross-laminated timber panels made from hardwood tree species," *Journal of Architectural Engineering*, ASCE, 29(1), 04022043.
9. Dashbold, B.<sup>1</sup>, Bryson, L.S., and Crawford, M.M. (2023). "Landslide Hazard and Susceptibility Maps Derived from Satellite and Remote Sensing Data Using Limit Equilibrium Analysis and Machine Learning Model," *Natural Hazards*, 116(1), 235-265.
10. Crawford, M.M., Dortch, J.M., Koch, H.J., Zhu, Y., Haneberg, W.C., Wang, Z., and Bryson, L.S. (2022). "Landslide Risk Assessment in Eastern Kentucky, USA: Developing a Regional Scale, Limited Resource Approach," *Remote Sensing*, 14(24), 6246.
11. Muttashar, W., Bryson, L. S. and Al-Humaidan, Z. (2021). "The use of particle size distribution integrated with consistency limits for experimentally simulating fine-grained sedimentary units." *Arabian Journal of Geosciences*, 14 (22), 2436.
12. Crawford, M.M., Dortch, J.M., Koch, H.J., Killen, A.A., Zhu, J., Zhu, Y., Bryson, L.S., and Haneberg, W.C. (2021). "Using landslide-inventory mapping for a combined bagged-trees and logistic-regression approach to landslide susceptibility in eastern Kentucky," *Quarterly Journal of Engineering Geology and Hydrogeology*, 54 (4), qjgeh2020-177.
13. Ahmed, F.S.<sup>1</sup>, Bryson, L.S., and Crawford, M.M. (2021). "Prediction of Seasonal Variation of In-situ Hydrologic Behavior using an Analytical Transient Infiltration Model," *Engineering Geology*, 294, 106383.
14. Romana Giraldo, J.<sup>1</sup>, and Bryson, L.S. (2021). "Excavation Support System Design Method to Limit Damage in Adjacent Infrastructure," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 147(12), 04021147.
15. Mahmoodabadi, M.<sup>1</sup>, and Bryson, L.S. (2021). "Prediction of Coupled Hydro-Mechanical Behavior of Unsaturated Soils Based on Seasonal Variations in Hydrologic Conditions," *Canadian Geotechnical Journal*, 58(6), 902-913.
16. Bryson, L.S., Smith, P.R.<sup>1</sup>, and Mahboub, K.C. (2021). "A Rational Bubble Screen Design Approach for Mitigation of Underwater Explosion Near Waterborne Infrastructure," *Canadian Journal of Civil Engineering*, 48(3), 298-311.
17. Mahmoodabadi, M.<sup>1</sup>, and Bryson, L.S. (2021). "Constitutive Model for Describing the Fully Coupled Hydro-Mechanical Behavior of Unsaturated Soils," *International Journal of Geomechanics*, ASCE, 21(4), 04021027.

18. Mahmoodabadi, M.<sup>1</sup>, and Bryson, L.S. (2021). "Direct Application of the Soil-Water Characteristic Curve to Estimate the Shear Modulus of Unsaturated Soils," *International Journal of Geomechanics*, ASCE, 21(1), 04020243.
19. Muttashar, W.<sup>1</sup>, and Bryson, L.S. (2020). "Constitutive Model for Predicting Stress Strain Behavior of Fine-Grained Sediments using Shear Wave Velocity," *Marine Georesources and Geotechnology*, 38(8), 896-910.
20. Romana Giraldo, J.<sup>1</sup>, Bryson, L.S. and Gutierrez Soto, M. (2020). "Performance of Two Tieback Walls under a Unique Construction Sequence Installed in a Shale Stratum," *Journal of Geotechnical and Geological Engineering*, Springer, 38(2), 1799-1816.
21. Muttashar, W.<sup>1</sup>, Bryson, L.S., McGlue, M., and Woolery, E. (2020). "The Integration of Grain-Size Distribution and Plasticity Parameters for Characterizing and Classifying Unconsolidated Fine-Grained Sediments," *Bulletin of Engineering Geology and the Environment*, 79(2), 925-939.
22. Bryson, L.S. and Romana Giraldo, J.<sup>1</sup> (2020). "Analysis of case study presenting ground anchor load-transfer response in shale stratum," *Canadian Geotechnical Journal*, 57(1), 85-99.
23. Muttashar, W.<sup>1</sup>, Bryson, L.S., and Woolery, E. (2019). "Determining the Effects of Depositional Processes on Consolidation Behavior of Sediment Using Shear-Wave Velocity," *Marine Georesources and Geotechnology*, 37(9), 1032-1043.
24. Bryson, L.S., Kirkendoll, J.S.<sup>1</sup>, and Mahmoodabadi, M.<sup>1</sup> (2019). "A New Rapid Method to Assess the Durability of Shale," *Journal of Geotechnical and Geological Engineering*, Springer, 37(5), 4135-4150.
25. Crawford, M.M.<sup>1</sup>, Bryson, L.S., Woolery, E.W., and Wang, Z. (2019). "Long-Term Landslide Monitoring Using Soil-Water Relationships and Electrical Data to Estimate Suction Stress," *Engineering Geology*, 251, 146-157.
26. Turner, A.P.<sup>1</sup>, Sama, M.P., Bryson, L.S. and Montross, M.D. (2018). "Effect of Pre-Processing on the Bulk Compression Behaviour of Switchgrass and Miscanthus," *Biosystems Engineering*, 175, November, 52-62.
27. Crawford, M.M.<sup>1</sup>, Bryson, L.S., Woolery, E.W., and Wang, Z. (2018). "Using 2-D Electrical Resistivity Imaging for Joint Geophysical and Geotechnical Characterization of Shallow Landslides," *Journal of Applied Geophysics*, 157, October, 37-46.
28. Crawford, M.M.<sup>1</sup> and Bryson, L.S. (2018). "Assessment of Active Landslides Using Field Electrical Measurements," *Engineering Geology*, 233, 146-159.
29. Bryson, L.S., Mahmoodabadi, M.<sup>1</sup>, and Adu-Gyamfi, K. (2017). "Prediction of Consolidation and Shear Behavior of Fly Ash-Soil Mixtures using Mixture Theory," *Journal of Materials in Civil Engineering*, ASCE, 29(11), 04017222.
30. Schal, S.<sup>1</sup>, Bryson, L.S., and Ormsbee, L. (2016). "A Simplified Procedure for Sensor Placement Guidance for Small Utilities," *International Journal of Critical Infrastructures*, 12(3), 195-212.
31. Walton-Macaulay, C.<sup>1</sup>, Bryson, L.S., Hippley, B.T., and Hardin, B.O. (2015). "Uniqueness of Constitutive Shear Modulus Surface for Unsaturated Soils," *International Journal of Geomechanics*, ASCE, 15(6), 06015002.
32. Kalinski, M.E., Bryson, L.S., Krumenacher, A.D., Phillips, B., Ethington, Z., and Webster, B.T. (2014) "Existing Technologies for Deterring and Defeating Waterside Attack on Dams," *International Journal of Critical Infrastructures*, 10(3/4), 247-266.
33. Schal, S.<sup>1</sup>, Bryson, L.S., Ormsbee, L. (2014). "A Graphical Procedure for Sensor Placement Guidance for Small Utilities," *Journal - American Water Works Association*, 106(10), E459-E469.
34. Bryson, L.S. and Salehian, A.<sup>1</sup> (2014). "Sensitivity Analysis of Selected Input Parameters for an Advanced Constitutive Model," *Journal of Geotechnical and Geological Engineering*, Springer, 32(2), 247-258.
35. Jolly, M.<sup>1</sup>, Lothes, A.<sup>1</sup>, Bryson, L.S., and Ormsbee, L. (2013). "Research Database of Water Distribution Systems Models," *Journal of Water Resources Planning and Management*, ASCE, 140(4), 1-8.
36. Bryson, L.S. and Zapata-Medina, D.G.<sup>1</sup> (2012). "Method for Estimating System Stiffness of Excavation Support Systems," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 138(9), 1104-1115.
37. Bryson, L.S., Gomez-Gutierrez, I.C.<sup>1</sup> and Hopkins, T.C. (2012). "Development of a New Loss Slake Durability Index for Compacted Shales," *Engineering Geology*, 139-140, 66-75.
38. Bryson, L.S., Jean-Louis, M.<sup>2</sup> and Gabriel, C.<sup>2</sup> (2012). "Determination of Insitu Moisture Content in soil from a Measure of Dielectric Constant," *International Journal of Geotechnical Engineering*, 6(2), 251-259.

39. Bryson, L.S. and Kotheimer, M.J.<sup>1</sup> (2011). "Cracking in Walls of a Building Adjacent to a Deep Excavation," *Journal of Performance of Constructed Facilities*, 25(6), 491-503.
40. Acton, P.M.<sup>1</sup>, Fox, J.F., Campbell, J.E., Jones, A.L., Rowe, H., Martin, D., and Bryson, L.S. (2011). "The Role of Soil Health in Maintaining Environmental Sustainability of Surface Coal Mining," *Environmental Science and Technology*, Vol. 45, 10265-10272.
41. Bryson, L.S. and Salehian, A.<sup>1</sup> (2011). "Performance of Constitutive Models in Predicting Behavior of Remolded Clay," *ACTA Geotechnica*, 6(3), 143-154.
42. Bryson, L.S. and Zapata-Medina, D.G.<sup>1</sup> (2010). "Finite Element Analyses of Secant Pile Wall Installation," *Proceedings of the Institution of Civil Engineers, Geotechnical Engineering*, ICE, 163(4), 209-219.
43. Bryson, L.S. and Bathe, A.<sup>1</sup> (2009). "Determination of Selected Geotechnical Properties of Soil using Electrical Conductivity Testing," *Geotechnical Testing Journal*, ASTM, 32(3), 252-261.
44. Bosscher, P., Williams, II, R., Bryson, L.S., Castro-Lacouture, D. (2007). "Cable-Suspended Robotic Contour Crafting System," *Journal of Automation in Construction*, 17(1), 45-55.
45. Finno, R. J. and Bryson, L. S. (2002). "Response of Buildings Adjacent to Stiff Excavation Support Systems in Soft Clay," *Journal of Performance of Constructed Facilities*, ASCE, 16(1), 10-20.
46. Finno, R. J., Bryson, L. S., and Calvello, M. (2002) "Performance of a Stiff Excavation Support System in Soft Clay," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 128(8), 660-671. [Recipient of the Thomas A. Middlebrooks Award at the 2004 ASCE National Convention. This award is made to the author(s) of a paper in the Geotechnical and Geoenvironmental Journal, which is judged worthy of special commendation for its merit as a contribution to geotechnical engineering.]

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<sup>1</sup> Graduate Student; <sup>2</sup> Undergraduate Student

## **REFEREED CONFERENCE ARTICLES**

1. Francis<sup>1</sup>, D.M. and Bryson, L.S. (2024), "Use of Bias Reduced L3SMP\_E Surface Moisture Estimates in Slope Stability Analyses," *Geo-Congress 2024: Bridging Government, Industry, and Academia for Resilient Mega-Communities*, Vancouver, British Columbia, Canada, 25-28 February 2024.
2. Rizzo<sup>1</sup>, R.J. and Bryson, L.S. (2023), "Remote Sensing Using Satellite Derived Products to Assess Sinkhole Occurrence," *Geo-Congress 2023: Sustainable Infrastructure Solutions from the Ground Up*, Los Angeles, California, USA, 26-29 March 2023.
3. Francis, D.<sup>1</sup>, Bryson, L.S., and Imarah, M.O.<sup>2</sup> (2022), "Conducting Landslide Analyses on Three Known Landslide Events using Hydrologic Parameters Derived from Calibrated Satellite Data," *20th International Conference on Soil Mechanics and Geotechnical Engineering (ICSMGE 2022)*, Sydney, Australia, 1-6 May 2022.
4. Francis<sup>1</sup>, D.M. and Bryson, L.S. (2022), "Random Forest Based Downscaling of SMAP L4 Soil Moisture and Subsequent use in Landslide Slope Stability Analysis," *Geo-Congress 2022: State of the Art and Practice in Geotechnical Engineering*, Charlotte, North Carolina, USA, 20-23 March 2022.
5. Romana Giraldo<sup>1</sup>, J. and Bryson, L.S. (2021), "Simplified Model for Cracking of Infill Walls Due to Excavation-Induced Distortions," *International Foundation Congress and Equipment Expo (IFCEE) 2021*, Dallas, Texas, USA, 10-14 May 2021.
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- Reviewer for the Canadian Geotechnical Journal
- Reviewer for the Engineering Geology Journal
- Reviewer for Acta Geotechnica
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## **POSTER PRESENTATION**

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7. Crawford, M.M.<sup>1</sup> and Bryson, L.S., (2016), "Geophysical and Geotechnical Field Correlations of the Doe Run Landslide, Northern Kentucky," *Geological Society of America Abstracts with Programs*, Vol. 48, No. 7, GSA Annual Meeting, Denver, CO, 25-28 September 2016.
8. Crawford, M.M.<sup>1</sup> and Bryson, L.S., (2015), "The Kentucky Geological Survey Landslide Program: From Inventory to Target Research," *Geological Society of America Abstracts with Programs*, Vol. 47, No. 7, p. 249. GSA Annual Meeting, Baltimore, MD, 1-4 November 2015.
9. Jean-Louis, M.<sup>1</sup> and Bryson, L.S., (2010), "Trident Moisture Meter: Linear Soil Model Generation and the Effect of Soil Compaction on the Models," *National Conference on Undergraduate Research*, University of Montana, Missoula, MT, 15-17 April 2010.

## **INVITED TECHNICAL PRESENTATIONS**

1. “Mechanical Behavior of Weather Compacted Shale,” Invited Speaker, Indiana Department of Transportation, Indianapolis, IN, 12 July 2023.
2. “Using Satellite Data for Landslide Predictions,” Invited Speaker, Case Western Reserve University, Cleveland, OH, 02 December 2022.
3. “Using Remote Sensing Techniques for Landslide Studies in Kentucky,” Invited Speaker, ORVSS LII, Lexington, KY, 02 November 2022.
4. “Landslide Site Assessment using Unmanned Aerial Systems (UAS) And Photogrammetry,” Keynote Speaker IGGECC-21 - Indian Geotechnical and Geoenvironmental Engineering Conference, Jalandhar, Punjab, India, 19-20 November 2021.
5. “Calibration of Satellite-Derived Factor of Safety using Ground-Based Sensor Data,” Featured Speaker, 32nd Central Pennsylvania Geotechnical Conference, Central Pennsylvania Section of ASCE, Hershey, Pennsylvania, 15-17 September 2021.
6. “Damage-Based Excavation Support System Design Method,” Invited Speaker, Professor Richard (Rich) J. Finno Symposium, Northwestern University, Evanston, IL, 20 July 2019.
7. “Underwater Explosion Energy Dissipation Near Waterborne Infrastructure,” Invited Speaker, Professor Charles (Chuck) H. Dowding Symposium, Northwestern University, Evanston, IL, 28 April 2018.
8. “Geo-Electrical and Geotechnical Field Correlations for Active Landslides in Kentucky,” Guest Lecturer, UK Environmental and Engineering Geophysical Society, 19 October 2017.
9. “Using Unmanned Aerial Systems (UAS) to Remotely Assess Landslide Events,” Guest Lecturer, Spring 2017 Rast-Holbrook Lecture Series, Lexington, KY, 16 February 2017.
10. “Laboratory Study of Acrylate Grout,” Invited Speaker, ORVSS XLVI, Lexington, KY, 16 December 2015.
11. “Resilient and Sustainable Critical Infrastructure,” Technical Presentation, The Republic of Korea MOSPA Short-Term Executive Program, Martin School of Public Policy and Administration, University of Kentucky, 12 November 2014.
12. “Load Transfer of Polycarbonate and Laminated Glass Glazing Systems,” Technical Presentation, ASCE Engineering Mechanics Institute 2013 Conference, Northwestern University, Evanston, IL, 7 August 2013.
13. “A Case Study – A Secant Pile Wall Excavation Support System in Soft Clay,” Technical Presentation, Kentucky Geotechnical Engineering Group Meeting, Frankfort, KY, 16 April 2013.
14. “Demonstration of Waterside Security Technologies at a Dam Facility,” Technical Presentation, Dams Sector Government Coordinating Council Meeting, Seattle, WA, 24 October 2012.
15. “Assessment and Mitigation of Water-Side Attacks on Dams,” Project Presentation, TSWG Waterside Security Working Group Meeting, McLean, VA, 10 October 2012.
16. “Integrated Waterside Surveillance and Security System for Protection of Dam Infrastructure,” Dam Safety 2012, Association of State Dam Safety Officials, Denver, CO, 17 September 2012.
17. “Existing Technologies for Protecting Dams from Waterside Attacks,” 2012 Southeast Regional Conference, Association of State Dam Safety Officials, Louisville, KY, 7 May 2012.
18. “Water-Side Security for Dams,” Technical Presentation, Dams Sector Waterside Security R&D Workshop, Vicksburg, MS, 31 January-1 February 2012.
19. “Assessment and Mitigation of Water-Side Attacks on Dams,” Project Review Presentation, DHS/NISH Project Review Conference, Washington, DC, 7-9 December 2010.
20. “Assessment and Mitigation of Water-Side Attacks on Dams,” Project Introduction Presentation, Waterside Security R&D Advisory Task Group Meeting, Lexington, KY, October 2010.
21. “Assessment and Mitigation of Water-Side Attacks on Dams,” Project Status Presentation, Dams Sector Joint GCC/SCC Meeting, Alexandria, VA, 11-13 May 2010.
22. “Assessment and Mitigation of Water-Side Attacks on Dams,” Project Review Presentation, DHS/NISH Project Review Conference, Washington, DC, 11-13 May 2010.

23. “Advanced Sensors for Civil Structures,” Session Chair, SPIE Symposium on SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring, San Diego, USA, 7-11 March 2010.
24. “Dynamic, Distributed Real-Time System for Geosystems Health Monitoring,” *4<sup>th</sup> Kentucky Innovation and Enterprise Conference*, Poster Session, Lexington, KY, 17 April 2008
25. “RoboPaver - Fully Autonomous Robot for Paving Operations”, *Ohio Transportation Engineering Conference*, Columbus, OH, 25-28 October 2005
26. “Foundation Systems Response to Blast Loading”, *NAVFAC Geotechnical Engineering Conference and Workshop*, Port Hueneme, CA, 24 – 26 February 2004.
27. “Research Capabilities at Ohio University”, *Fourth USUCGER National Workshop*, Atlanta, GA, 1-3 October 2003.

#### Media Presentations

1. “How Satellite Data Is Being Used to Save Lives from Landslides”, *The Geotechnical Engineering Podcast*, Engineering Management Institute, TGEP 077, 1 June 2023.

#### Non-Technical Presentations

1. “Humanitarian and Sustainability Engineering”, *STEMCats Seminar BIO 101: Careers and Research in STEM*, University of Kentucky, Lexington, KY, 9 September 2019
2. “Resilient and Sustainable Critical Infrastructure”, *STEMCats Seminar BIO 101: Careers and Research in STEM*, University of Kentucky, Lexington, KY, 9 October 2018
3. “Careers and Research in Resilient and Sustainable Critical Infrastructure”, *STEMCats Seminar BIO 101: Careers and Research in STEM*, University of Kentucky, Lexington, KY, 9 October 2017
4. “Profiles in Courage: The African American Experience at Ohio University”, *Affirming Diversity at Ohio University*, Ohio University, Athens, OH, 14 February 2005
5. “New Faculty Introduction”, *Civil Engineering Advisory Board Meeting*, Ohio University, Athens, OH, 24 April 2002.

## **GRADUATE STUDENT SUPERVISION**

#### MS Students (Thesis) - University of Kentucky

1. Scale-Model Testing to Simulate Unsurfaced US Airforce Airfields, Lucas Acheampong (M.S. Thesis, Ongoing)
2. Geophysics-Based Design of US Airforce Airfields, Dabo Adama (M.S. Thesis, Ongoing)
3. Load and Pressure Distribution as a Function of Dynamic Contact Stress at the Railroad Crosstie-Ballast Interface, Habib Abdil Unluoglu (M.S. Thesis, December 2022)
4. Geophysical Techniques used for the Analysis and Prediction of Soil Strength and Mechanical Behavior, Matthew Hurley (M.S. Thesis, August 2021)
5. Landslide Site Assessment and Characterization Using Remote Sensing Techniques, Batmyagmar (Mega) Dashbold (M.S. Thesis, August 2021)
6. Analysis of the Pile Load Test at the US 68/KY 80 Bridge over Kentucky Lake, Edward Scott Lawson (M.S. Thesis, May 2019)
7. Performance of Two Tieback Walls and Rock Anchors in a Shale Stratum, Jorge Octavio Romana Giraldo (M.S. Thesis, August 2018)
8. Performance of the Grout Curtain at Kentucky River Lock and Dam No. 8, Robert Courtney Hatton (M.S. Thesis, May 2018)
9. Self-Sensing Cementitious Materials, Alexander Nicholas Houk (M.S. Thesis, December 2017)
10. Using Unmanned Aerial Systems (UAS) and Photogrammetry to Remotely Assess Landslide Events in Near Real-Time, Jordan Trent Keeney (M.S. Thesis, August 2016)
11. Underwater Explosion Energy Dissipation Near Waterborne Infrastructure, Paul Raymond Smith (M.S. Thesis, December 2015)
12. Deformation-Based Design of Excavation Support System Design Method, Sekyi Kobina Intsiful (M.S. Thesis, May 2015)

13. Mechanical Behavior of Grouted Sand, Ryan Ortiz (M.S. Thesis, May 2015)
14. Mechanical Behavior of Weathered Compacted Shale, Xu Zhang (M.S. Thesis, December 2014)
15. Calibration of Non-Nuclear Devices for Construction Quality Control of Compacted Soils, Joshua Eli Robert Wells (M.S. Thesis, August 2014)
16. Quantifying the Effectiveness of a Grout Curtain Using a Laboratory-Scale Physical Model, Elliot Nicholas Magoto (M.S. Thesis, May 2014)
17. Moisture and Unit Weight Readings from a Complex Impedance Measuring Instrument, Kirk Andrew Jenkins, (M.S. Thesis, December 2013)
18. Water Quality Sensor Placement Guidance for Small Water Distribution Systems, Stacey Lee Schal, (M.S. Thesis, December 2013)
19. Unsaturated Soil Parameters from Field Stiffness Measurements, Jason Michael Curd, (M.S. Thesis, August 2013)
20. Development of a New Testing Procedure for Durability of Compacted Shale, Jordan Kirkendoll (M.S. Thesis, May 2013)
21. Water Quality Sensor Placement in Small Distribution Systems, Amanda Lothes (M.S. Thesis, August 2012)
22. Constitutive Mechanical Relationships for Compacted Unsaturated Soils, Brock Kidd (M.S. Thesis, December 2011)
23. Calibration Techniques for Predictive Geotechnical Relationships for a Coaxial Impedance Soil Sensor, Derrick Dennison, (M.S. Thesis, December 2011)
24. Investigation of Non-Nuclear Devices for Soil Moisture-Density Determination, Christian Wilder (M.S. Thesis, May 2011)
25. Identification of Generic Dam and Spillway Configurations, Lyndsie Janbakhsh (M.S. Report, May 2011)
26. Underwater and Surface Water Blast Response of Concrete Dams, Julie Heiser (M.S. Thesis, May 2011)
27. Evaluation and Modification of the Testing Procedures for the Electrical Density Gauge, Bryan Scott Embry (M.S. Thesis, May 2011)
28. Investigation of Humboldt Geogauge for Quality Control of Compacted Subgrades, Jonathan Huff (M.S. Thesis, December 2010)
29. Development of a Generalized Soil Calibration Model for the Moisture Density Indicator, Christopher Jones (M.S. Thesis, May 2010)
30. Comparison of Measured Mechanical Behavior of Kentucky Clay with Predictions by Advanced Soil Models, Ali Salehian (M.S. Report, August 2009)
31. Structural Health Monitoring Damage Criteria Using Wireless Technology, Matthew, W. Weekley (M.S. Report, May 2009)
32. Stiffness Degradation of Railroad Ballast due to Clay Fouling, Kyle Guenther (M.S. Report, May 2008)
33. Semi-Empirical Method for Designing Excavation Support Systems Based on Deformation Control, David Zapata (M.S. Thesis, August 2007)

#### MS Students (Non-Thesis) - University of Kentucky

1. Jack Wilhelm Griffin (M.S. Non-Thesis Option, May 2023)
2. Ko Kyaw (M.S. Non-Thesis Option, December 2022)
3. Christopher Lee Yohe (M.S. Non-Thesis Option, May 2021)

#### MS Students – Ohio University

1. Geotechnical Properties of Soils Using Electrical Measurements, Abhijit Bathe (M.S. Thesis, June 2005)
2. Response of Shallow Foundations to Blast Loading, Nathaniel Gamber (M.S. Thesis, August 2004)
3. Damage Approximation to Buildings Adjacent to Deep Excavations, Mike Kotheimer (M.S. Thesis, December 2003)

#### Ph.D. Students

1. Climate Driven Changes to the Strength and Stiffness Response of the Railroad Track Support Structure, Habib Abdul Unluoglu (Ph.D., Ongoing)
2. Research Leading to Forecasting of Sinkholes using Satellite Data, Ronald Rizzo (Ph.D., Ongoing)
3. Historical and Forecasted Kentucky Specific Slope Stability Analyses using Remotely Retrieved Hydrologic and Geomorphologic Data, Daniel Marvin Francis (Ph.D., August 2023)
4. Geophysics-Based Ground Control and Excavation Design Methodology Based on Acceptable Damage, Jorge Octavio Romana Giraldo (Ph.D., December 2022)
5. Development of a Decision-Making Tool for Prediction of Rainfall-Induced Landslides, Faisal Shakib Ahmed (Ph.D., May 2022)
6. Artificial Intelligence and Soft Computing in Smart Structural Systems, Sajad Javadinasab Hormozab, (Mariantonieta Gutierrez Soto, Chair, L. Sebastian Bryson, co-Chair, Ph.D., December 2021)
7. Effects of Hydrologic Variations on Hydraulic and Deformational Characteristics of Unsaturated Soils, Majid Mahmoodabadi (Ph.D., December 2020)
8. The Effect of Depositional Processes on the Strength and Compressibility of Sediments using Elastic Shear Wave Velocity, Wisam Razzaq Muttashar (Department of Earth and Environmental Sciences, Ph.D., May 2019)
9. Hydrologic Monitoring and 2-D Electrical Resistivity Imaging for Joint Geophysical and Geotechnical Characterization of Shallow Colluvial Landslides, Matthew Crawford, (Department of Earth and Environmental Sciences, Ph.D., December 2018)
10. Prediction of Strength and Shear Modulus of Compacted Clays within an Unsaturated Critical State Framework, Corrie Walton Macaulay (Ph.D., May 2015)
11. Development of a Constitutive Model of Compacted Shales and Determination of the Effect of Weathering on Its Parameters, Isabel Gomez Gutierrez (Ph.D., December 2013)
12. A Generalized Theory for Fly Ash-Modified Soils, Kwame Adu-Gyamfi, Ohio University (Ph.D., May 2006)

## **SERVED ON COMMITTEE**

### **M.S. Students (thesis option)**

1. Daniel Francis, Civil Engineering, University of Kentucky, December 2018
2. Travis Watts, Civil Engineering, University of Kentucky, December 2018
3. Harry C. Donaghy, Civil Engineering, University of Kentucky, December 2017
4. Rachel Adams, Civil Engineering, University of Kentucky, December 2015
5. Clayton Brengman, Earth and Environmental Sciences, University of Kentucky, August 2014
6. Melinda Jean-Louis, Civil Engineering, University of Kentucky, May 2014
7. Aaron Turner, Biosystems and Agricultural Engineering, University of Kentucky, May 2014
8. Michael McHenry, Civil Engineering, University of Kentucky, December 2013
9. Matthew Jolly, Civil Engineering, University of Kentucky, August 2013
10. Robert Craig Ashby, Civil Engineering, University of Kentucky, May 2013
11. Joshua Calnan, Mining Engineering, University of Kentucky, May 2013
12. Erin Morris, Mining Engineering, University of Kentucky, August 2012
13. Alexander Krumenacher, Civil Engineering, University of Kentucky, May 2012
14. Lizabeth Likins, Civil Engineering, University of Kentucky, May 2012
15. Joseph Goodin, Civil Engineering, University of Kentucky, May 2012
16. Raghava Bhamidipati, Civil Engineering, University of Kentucky, May 2012
17. Steven Taylor Taluskie, Civil Engineering, University of Kentucky, December 2011
18. Samuel Gallagher Guy, Civil Engineering, University of Kentucky, December 2011
19. Benjamin Webster, Civil Engineering, University of Kentucky, May 2011
20. Zachery Ethington, Civil Engineering, University of Kentucky, May 2011
21. Bryan Phillips, Civil Engineering, University of Kentucky, December 2010
22. Dharmendra Kumar, Mining Engineering, University of Kentucky, August 2010
23. Aaron Wallace, Civil Engineering, University of Kentucky, May 2009

24. Lauren Little, Civil Engineering, University of Kentucky, May 2008
25. Joshua Kopp, Civil Engineering, University of Kentucky, May 2007
26. Justin Anderson, Civil Engineering, University of Kentucky, May 2007
27. Regan Welch, Civil Engineering, Ohio University, August 2006
28. Christopher Maynard, Mechanical Engineering, Ohio University, August 2005

#### Ph.D. Students

1. Ryan Goldsby, Department of Earth and Environmental Sciences, University of Kentucky, Ongoing
2. Meredith Swallow, Department of Earth and Environmental Sciences, University of Kentucky, Ongoing
3. Chrispin Gabriel, Department of Civil Engineering, University of Kentucky, Ongoing
4. Russell Lamont, Department of Mining Engineering, University of Kentucky, December 2023
5. Sarah Johnson, Department of Earth and Environmental Sciences, University of Kentucky, May 2023
6. Tristan Worsley, Department of Mining Engineering, University of Kentucky, December 2020
7. Erika Hernandez Hernandez, Department of Civil Engineering, University of Kentucky, December 2020
8. Lifeng Li, Department of Mining Engineering, University of Kentucky, August 2018
9. Gemunu Ekanayake, Department of Physics and Astronomy, University of Kentucky, May 2017
10. Alfred Susilo, Department of Civil Engineering, University of Kentucky, August 2016
11. Raghava Bhamidipati, Department of Civil Engineering, University of Kentucky, August 2016
12. Joshua Calnan, Department of Mining Engineering, University of Kentucky, May 2016
13. Kevin Harris, Department of Mining Engineering, University of Kentucky, December 2015
14. Robert Jewell, Department of Civil Engineering, University of Kentucky, May 2015
15. Catherine Johnson, Department of Mining Engineering, University of Kentucky, December 2014
16. Ali Salehian, Department of Civil Engineering, University of Kentucky, 2013
17. R. Clark Graves, Department of Civil Engineering, University of Kentucky, 2012
18. Zilong Wang, Department of Statistics, University of Kentucky, 2012
19. Jhon Silva Castro, Department of Mining Engineering, University of Kentucky, 2012
20. Dazhang Gu, School of Electrical Engineering and Computer Science, Ohio University, December 2005

## **UNDERGRADUATE STUDENT SUPERVISION**

### Supported Research

1. Assessment of Landslides using Satellite-Based Data, Michelle Imarah (UK Office of Undergraduate Research Summer Research Fellowship, Summer 2020)
2. Predicting Landslides in Kentucky, Michelle Imarah (Bucks for Brains Research Grant, Summer 2019)
3. Model Dam Research, Dylan Mitchell (Bucks for Brains Research Grant, Summer 2018)
4. Geothermal Energy System in Shale Formations in Kentucky, Lucien Whaley (Summer Sustainability Research Grant, Summer 2017)
5. Terrestrial Optical Photogrammetry for Real-Time Landslide Hazard Assessment, Carrie A. Bass (NASA LSAMP Undergraduate Researcher, 2015)
6. Using Unmanned Aerial Vehicles and Photogrammetry Technology to Remotely Assess Landslide Events, Qiana Flewellen (Undergraduate Researcher, 2015)
7. Effects of Initial Conditions on Strength of Acrylamide Grouted Sands, Ryan Ortiz (AMSTEMM Undergraduate Researcher, 2011-2013)

8. Unsaturated Soil Mechanics, Nishelle Clayton (LSAMP REU Researcher, 2010-2013)
9. Using Electrical Methods to Quantify the Effectiveness of a Grout Curtain, Jacquez Leandre (AMSTEMM Undergraduate Researcher, 2012)
10. Determination of Insitu Moisture Content from Measurements of the Complex Dielectric Constant in Soils, Melinda Jean-Louis (LSAMP REU Researcher, 2010)
11. Trident Moisture Meter: A Study on Linear Soil Model Generation and the Effect of Soil Compaction on the Models, Chrispin Gabriel (LSAMP REU Researcher, 2009)
12. Dynamic Distributed Real-Time System for Geosystems Health Monitoring, Emiko Toritsemotse (LSAMP REU Researcher, 2008)
13. Critical State Soil Parameters for Kentucky Clay, Melanie Anderkin (NSF REU Researcher, 2008)
14. Wireless Sensors for Geo-Structural Health Monitoring, April Barnes and Tom Lutz, Ohio University (Stocker Undergraduate Researchers, 2006)
15. Extruded Modular Construction using Cable Operated Robotics, Mallory Starr, Ohio University (Stocker Undergraduate Researcher, 2006)
16. Instrumentation for Measuring Electrical Properties of Soil, Benjamin McDonald, University of Akron (Glenn-Stokes Undergraduate Researcher, 2004)
17. Interface Friction Between Sand and Geofom, Kirk Hawley, Ohio University (Stocker Undergraduate Researcher, 2003)

#### CE 395 Independent Study

1. Investigation of Delayed Failure in the Stanton, Kentucky Debris Flow, Zachary Kemper (CE 395 Independent Study, 2020)
2. Constant Rate of Strain Consolidation Testing, Charles A. Sayre (CE 395 Independent Study, 2017)
3. Pile Load Test Case History, Jacquez Leandre (CE 395 Independent Study, 2014)
4. Geotechnical Characterization of Oil Shales, Briana Smith (CE 395 Independent Study, 2013)
5. Evaluation of a New Calibration Procedure for a Non-Nuclear Moisture-Density Device, J.J. Cutler (CE 395 Independent Study, 2012)
6. Evaluation of the Effectiveness of a Grout Curtain using a Physical Model, Elliot Magato (CE 395 Independent Study, 2012)
7. Performance of Empirical Methods for Estimating Underwater Explosion Parameters, Kirk Jenkins (CE 395 Independent Study, 2012)
8. Stability Analysis of the L-575 Levee Failure on the Missouri River, J. Cole Hatfield (CE 395 Independent Study, 2012)
9. Deformation-Based Design Approach for Excavation Support Systems, Barry Bishop (CE 395 Independent Study, 2011)
10. Forensic Analysis of the Ajka Red Mud Dike Failure, Mike McHenry (CE 395 Independent Study, 2011)
11. Correlations between Index Properties and Unconfined Compressive Strengths of Compacted Soils, Andrew Parr (CE 395 Independent Study, 2010)
12. The Effects of Ballast Fouling, Sheree Gabbard (CE 395 Independent Study, 2009)
13. Wireless Instrumentation of Geotechnical and Structural Laboratory Experiments, Alex Pulido (CE 395 Independent Study, 2009)
14. Shear Strength of Fly Ash-Modified Soils using the Direct Shear Device, Jared Barcalow, Ohio University (Undergraduate Researcher, 2005)
15. Instrumentation for Electrical Impedance Measurements in Soils, Seana McNeil, Ohio University (Undergraduate Researcher, 2005)
16. Autonomous Robot for Road Paving, Christopher Maynard, Ohio University (Undergraduate Researcher, 2004)

## **SPECIAL SERVICES PERFORMED FOR UNIVERSITY**

### University of Kentucky - Leadership

- Chair, Department of Civil Engineering, College of Engineering, University of Kentucky (July 2022 – present)
- Director of Graduate Studies, Department of Civil Engineering, College of Engineering, University of Kentucky (July 2021 – July 2022)
- College of Engineering Scholars Program in Undergraduate Research, University of Kentucky, Co-Director (Fall 2017 – 2020)
- Faculty Development Training Program for the China University of Mining and Technology International Center, University of Kentucky, Faculty Mentor (Spring 2019)
- University of Kentucky Sustainability Challenge Grant Review, Fall 2018
- Engineered 4 Success Summer Diversity Camp, University of Kentucky, Civil Engineering Module Presenter (Summer 2017)
- University of Kentucky First Scholars Program, Strategic Partner, (Fall 2012 – 2016)
- National Society of Black Engineers, University of Kentucky Chapter, Faculty Advisor (Fall 2012 – 2016)
- University of Kentucky Center for Academic Resources and Enrichment Services (CARES), Freshman Summer Program (FSP) Science and Engineering Shadowing (Summers 2008-2016)
- Minority Engineering Day Program, University of Kentucky, Civil Engineering Faculty Representative (February 2007-2012)

### University of Kentucky – Committee Assignments

- Associate Provost for Academic Affairs Search Committee, University of Kentucky, Committee Member (Spring 2024)
- Department of Electrical and Computer Engineering Chair Search Committee, University of Kentucky, Committee Chair (Fall 2023)
- Associate Dean for Undergraduate Studies and Student Success (ADUESS) Search Committee, College of Engineering, University of Kentucky, Member (Spring 2023)
- Ad Hoc Engineering Technology Faculty Committee, College of Engineering, University of Kentucky, Member (May 2021 – Pres)
- Office of Undergraduate Research Review Committee, University of Kentucky, Committee Member for the College of Engineering (Fall 2019)
- Sustainable Infrastructure Faculty Search Committee, Department of Civil Engineering, College of Engineering, University of Kentucky, Member (Fall 2018 – Spring 2019)
- Dean Search Committee, College of Engineering, University of Kentucky, Member (Fall 2017 – Spring 2018)
- Ken Freedman Outstanding Advisor Selection Committee, University of Kentucky, Member (2015-2019)
- Committee on Research and Policy of the Kentucky Water Resources Research Institute, Member (April 2007 – 2019)
- Committee on Research and Policy of the Kentucky Water Resources Research Institute, Chair (2013 – 2016)
- Civil Engineering Transportation Scholarship Program Committee, University of Kentucky, Member and co-Chair, (Spring 2007 – present)
- CE Department Chair Performance Review Committee, University of Kentucky, Member (March 2009)

### Ohio University

- Engineering 4 You – Introduction to Engineering for High School Juniors and Seniors, developed and coordinated Civil Engineering module (23 February 2006)
- Featured in the Russ College of Engineering and Technology recruitment video (Summer 2005)
- Taught Mathematics for the Advanced Mathematics for the Minority-Males in Engineering and Technology and the Women in Engineering and Technology programs (Summers 2003-2005)
- Established an educational partnership between the Naval Facilities Service Center in Port Hueneme, CA and Ohio University (2003)
- Served as the College of Engineering representative for potential football and basketball recruits (2002-2005)

## **EXTERNAL COMMITTEES**

- Session Chair, “TC 208 - Slope Stability in Engineering Practice,” Technical Session, 20th International Conference on Soil Mechanics and Geotechnical Engineering (ICSMGE), Sydney, Australia, 1-5 May 2022
- Co-Host, ASCE Geo-Institute Cross-USA Lecture Series Featuring Dr. Robert Bachus, 4 Nov 2020 and 17 Nov 2020.
- Critical Infrastructure Technical Reviewer, National Institute for Hometown Security (NIHS) Advisory Board, 2019-present
- Session Chair, “Non-Destructive Testing for Engineering Problems,” Technical Session, Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) 2018, Nashville, TN, 25-29 March 2018
- Session Chair and Member, 2016 GeoChicago Conference Technical Committee, 2015-2016
- Member, 2016 Joint G-I/SEI Conference Planning Committee, 2014-2016
- Session Chair, “Geotechnical and Geological Aspects of Shale Oil and Gas,” Technical Session, *Shale Energy Engineering Conference*, Pittsburg, PA, 21-23 July 2014
- Chair, ASCE Geo-Institute, Diversity and Inclusion Committee, 2012-2016
- Conference Advisory Committee, *International Conference on New Developments in Geoenvironmental and Geotechnical Engineering*, Incheon, Republic of Korea, 9-11 November 2006,
- Member, ASCE Infrastructure Resilience Division, Civil Infrastructure and Lifeline Systems Technical Committee, 2017-present
- Member, ASCE Geo-Institute, Earth Retaining Structures Technical Committee, 2006-present
- Member, United States Universities Council on Geotechnical Education and Research - Research Committee, 2003-2013
- Member, Ohio Transportation Engineering Conference Program Committee, 2003-2005

## **WORKSHOPS AND PANELS**

- 2021 NSF Boosting Research Ideas for Transformative and Equitable Advances in Engineering (BRITE) – Pivot Track Review Panel, 2021
- 2018 Autonomous Systems Collaborative Retreat, University of Kentucky, College of Engineering, Cumberland Falls State Resort Park, 6-7 August 2018
- 2018 Natural Hazards Reconnaissance Facility Equipment Training Workshop, University of Washington, Seattle, WA, 24-27 July 2018
- 2018 Railroad Engineering Education Symposium (REES 2018), University of South Carolina, Columbia, SC, 26-27 June 2018
- 2012 Symposium on Performance Modeling of Low-Level Radioactive Waste Disposal Facilities, University of Kentucky, Lexington, KY, 22 February 2012, Symposium co-Chair
- 2009 NSF Innovations in Engineering Education, Curriculum, and Infrastructure (IEECI) Review Panel, 2009

- 2008 Railroad Engineering Education Symposium (REES 2008), University of Illinois, Urbana-Champaign, 9-11 June 2008
- 2005 NSF Civil and Mechanical Systems Review Panel (Geotechnical and Geotechnical Systems), 2003, 2004, 2005
- 2004 NSF Major Research Instrumentation Review Panel (CMS proposals), 2004
- 2004 NEES Centrifuge Research and Training Workshop, University of California, Davis, 18-20 November 2004)
- 2003 Fourth United States Universities Council on Geotechnical Education and Research National Workshop, Atlanta, GA, 1-3 October 2003
- 2003 Workshop for the Advancement and Retention of Underrepresented and Minority Engineering Educators, NSF, Arlington, VA, 21-24 September 2003
- 2003 Symposium on Construction Processes in Geotechnical Engineering, City University, London, England, 10-11 April 2003

## **ACADEMIC HONORS AND AWARDS**

- 2022 Chi Epsilon, National Civil Engineering Honor Society, December 2022
- 2022 Inducted into the Order of the Engineer, December 2022
- 2022 2021-2022 University of Kentucky Department Chair's Academy II
- 2021 Elected to Fellow Grade, American Society of Civil Engineers, 30 October 2021
- 2021 Certified as Diplomate Geotechnical Engineer (D.GE), ASCE Academy of Geo-Professionals (AGP), May 2021
- 2021 2020-2021 University of Kentucky Department Chair's Academy I
- 2020 2020 Bluegrass Academic Leadership Academy Fellow
- 2020 UK Office of Undergraduate Research's 2019-2020 Faculty Mentor of the Week
- 2015 Faculty Mentor of the Year Nominee, Southern Regional Education Board, 2015
- 2012 National Academic Advising Association (NACADA) Faculty Certificate of Merit for Outstanding Advising Award, 2012
- 2012 Ken Freedman Outstanding Advisor Award, University of Kentucky, 2012
- 2010 Nominated for the 2010 University of Kentucky Alumni Association Great Teacher Award, University of Kentucky, 2010
- 2007 Inducted into Omicron Delta Kappa, National Leadership Honor Society, 2007
- 2004 Thomas A. Middlebrooks Award, American Society of Civil Engineers, 2004
- 2000 Geotechnical Student Fellowship, American Society of Civil Engineers, Illinois Section, 2000
- 1990 Dwight D. Eisenhower Research Fellowship, Federal Highway Administration, 1990
- 1989 US Representative for NATO Conference on Flow Through Porous Media, 1989
- 1987 ASCE Outstanding Student Member, Florida A and M University Student Chapter, 1987
- 1987 ASCE Student Chapter President, Florida A and M University Student Chapter, 1986 and 1987
- 1986 Co-Founder of the National Society of Black Engineers, Florida A and M University Chapter, 1986

## **PROFESSIONAL AFFILIATIONS**

- American Society of Civil Engineers, Geo-Institute
- American Geophysical Union, Life Member
- International Society of Soil Mechanics and Foundation Engineering
- ADSC: The International Association of Foundation Drilling
- The Association of State Dam Safety Officials
- The US Society on Dams

## **INDUSTRY EXPERIENCE**

<b>SENIOR CONSULTANT</b> Consulting Services Incorporated of Kentucky (CSI) Lexington, KY	06/15 to Present
<b>CONSULTING ENGINEER</b> Facilities Planning and Construction Ohio University Athens, OH	08/02 to 10/02
<b>GEOTECHNICAL/GEOENVIRONMENTAL ENGINEER</b> CH2M HILL, Inc. Milwaukee, WI	01/92 to 09/98
<b>RESEARCH ENGINEER</b> Federal Highway Administration Turner-Fairbank Highway Research Center McLean, VA	08/90 to 01/92
<b>RESEARCH ENGINEER</b> Los Alamos National Laboratory Los Alamos, NM	08/89 to 08/90
<b>MATERIAL LABORATORY TECHNICIAN</b> Geo-Hydro Engineers, Inc. Marietta, GA	04/88 to 08/88
<b>HIGHWAY ENGINEER</b> Florida Department of Transportation Bureau of Roadway Design Tallahassee, FL	04/85 to 05/87

## **CERTIFICATIONS**

- 29 CFR 1910.146, Authorized Entrant and Attendant for Permit-Required Confined Spaces (expired)
- 29 CFR 1910.120, 40-Hour Initial Health and Safety Training and 8-Hour Annual Refresher Course (expired)
- Standard First Aid and Adult CPR Training