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EDUCATION

- Doctor of Philosophy (Geotechnical Engineering), December 2013.
The University of Texas at Arlington (UTA).
- Masters of Science in Civil Engineering (Geotechnical Engineering), August 2011.
The University of Texas at Arlington (UTA).
- Bachelor of Science in Civil Engineering, June 2007.
Bangladesh University of Engineering and Technology (BUET).

APPOINTMENTS

- Associate Professor, (May 2021- Present),
Jackson State University (JSU)
- Assistant Professor (August 2015-April 2021),
Jackson State University (JSU)
- Post-Doctoral Research Associate and Adjunct Faculty (January 2014-August 2015),
The University of Texas at Arlington (UTA)
- Graduate Research Assistant (January 2010-December 2013),
The University of Texas at Arlington (UTA)
- Project Coordinator (December 2007- December 2009),
Sinamm Engineering Limited, Dhaka, Bangladesh.
- Assistant Engineer, (June 2007- November 2007),
China National Electric Wire & Cable Import/Export Corporation (CCC), Dhaka, Bangladesh.

RESEARCH FOCUS

Climate Change and Extreme Events	Sustainable and Green Infrastructure	Smart Sensing and Data Analytics
Risk and Reliability of Infrastructures under changing climate	Sustainable and Bio-Inspired Design and Repair	Drone & LiDAR based Imaging and Sensing
Nature Based Solution for Climate Change	Integrated Solid Waste Management	Geophysical Investigation: ERI, GPR, Wave Based Tools
Extreme Event Adaptive Infrastructure	Climate Adaptive Design Protocol and Asset Management	Sensor Based Smart Framework Development using AI

TECHNICAL BOOK

- Hossain, M.S., Kibria, G. and Khan, M.S., (2018), “Site Investigation using Electrical Resistivity Imaging”, CRC Press, ISBN 9781138485938 - CAT# K349394
- Hossain, M.S., Khan M.S. and Kibria, G. (2017), “Sustainable Slope Stabilization using Recycled Plastic Pin”, CRC Press, ISBN 9781138636101 - CAT# K32128

HIGHLIGHTED PROJECTS

- CAREER: Climate Resilient Landslide Repair on Expansive Soil Using Vetiver Grass, Project Funded by National Science Foundation (NSF). Total Budget \$539k, Project Duration 5 years, From May 2021 to April 2026.
- Advanced Landslide Investigation protocol using Geophysical Testing. Project Funded by Mississippi Department of Transportation. Total Budget \$300K, Project Duration: 2 years, From July 2020 to June 2023.

HONORS AND AWARDS

- **2021 AASHTO Sweet 16 project Award**, Awarded by AASHTO Research Advisory Committee on the research project, “State Study 286: Performance Evaluation of highway slopes on Yazoo clay”.
- **2020 NSF CAREER AWARD** Awarded by National Science Foundation.
- **2019 ENGINEER OF THE YEAR** Awarded by ASCE Region 5 in September 2019.
- **2018 ENGINEER OF THE YEAR** Awarded by ASCE MS Section in October 2018.

TECHNICAL COMMITTEE

- Member and Committee Communication Coordinator, AKG 20- TRB Standing Committee on Soil and Rock Properties and Site Characterization
- Member, AKG 40- TRB Standing Committee on Mechanics and Drainage of Saturated and Unsaturated Geomaterials
- Technical Member, ASCE GI-Shallow Foundation Committee
- Technical Member, ASCE GI-Unsaturated Soil Committee

PROFESSIONAL LICENSE

- The State of Texas, P.E. # 119136
- The State of Mississippi, P.E. # 28483

PUBLICATIONS

Citation 647, H-index: 13, i10-index: 22

Updated on June 2022.

Journals and Technical Note

Under Review

1. Davar, S., Nobahar, M., Khan, M.S., Farshad Amini, F. (2022) Development of Hybrid Intelligent Models for Predicting Matric Suction in Expansive Clay Soil, under review in Mathematics.
2. Nobahar M., Salunke R., Khan M. S., and Amini (2022) Development of Soil Moisture Content and Soil Matric Suction Model based on Field Instrumentation and Electrical Resistivity Imaging (ERI), under review in Journal of Transportation Research Record.
3. Nobahar M., Salunke R., Khan M. S., Stroud M, and La-Cour I. (2022) Identifying Unsaturated Variations of Highway Slopes Using Coupled Electrical Resistivity Imaging (ERI) and Field instrumentation, under review in Journal of Transportation Research Record.
4. Shuman, N. M., Khan, M.S., and Amini, F., (2022) Performance Based Design Method for Multiple Helices of Helical Pile in Cohesionless Soil, under review in Journal of Transportation Research Record.
5. Shuman, N. M., Khan, M.S., and Amini, F., (2022) Performance Based Design Method for Single Helix Helical Pile in C - Φ Soil, under review in Soil and Foundation.

Published

1. **Khan, M.S.**, Nobahar, M., Ivoke, J. and Amini, F. (2022), Numerical Investigation of Hydraulic Conductivity Variation on Highway Slopes Made of Expansive Yazoo Clay, Transportation Research Record, 03611981221099508.
2. **Khan, M. S.**, Nobahar, M., Stroud, M., Ferguson, S., & Ivoke, J. (2022). Performance Evaluation of a Highway Slope on Expansive Soil in Mississippi. *International Journal of Geomechanics*, 22(1), 05021005.
3. **Khan M.S.**, Nobahar M, Stroud, M., Amini, F and Ivoke, J. (2021) Evaluation of rainfall induced moisture variation depth in highway embankment made of Yazoo clay, *Transportation Geotechnics*, 30 (100602), <https://doi.org/10.1016/j.trgeo.2021.100602>
4. Nobahar, M., **Khan, M.S.**, Stroud, M., Amini, F., and Ivoke, J. (2021), Progressive Development of the Perched Water Zone in Highway Slopes Made of Highly Plastic Clay”, *Transportation Research Record*.
5. **Khan, M.S.**, Hossain, M.S., and Nobahar, M. (2021) “Stabilization of the Highway Slope using Recycled Plastic Pins” *Transportation Research Record*, 03611981211007143
6. Ivoke J., **Khan M.S.**, and Nobahar M. (2021) “Unsaturated Hydraulic Conductivity Variation of Expansive Yazoo Clay with Wet-Dry Cycles”, *Transportation Research Record*, 03611981211011994
7. **Khan M. S.**, Ivoke J., Nobahar M., Boggs, S. and Amini F. (2021), Artificial Neural Network (ANN) based predictive Soil Temperature model of High Plastic Yazoo Clay, *Geomechanics and Geoengineering*, 1-17.
8. **Khan, M.S.**, Ivoke, J. and Nobahar, M. (2021), “Numerical Investigation of Slope Stabilization using Recycled Plastic Pin on Yazoo Clay”, *Infrastructures* 2021, 6(3), 47; <https://doi.org/10.3390/infrastructures6030047>

9. Ahmed, A., **Khan, M. S.**, Hossain, S., Sadigov, T., & Bhandari, P. (2020). Safety prediction model for reinforced highway slope using a machine learning method. *Transportation research record*, 2674(8), 761-773.
10. Nobahar, M., **Khan, M. S.**, & Ivoke, J. (2020). Combined Effect of Rainfall and Shear Strength on the Stability of Highway Embankments Made of Yazoo Clay in Mississippi. *Geotechnical and Geological Engineering*, 1-16; DOI: <https://doi.org/10.1007/s10706-020-01187-8>
11. **Khan M. S.**, Ivoke J & Nobahar M. (2019), Coupled Effect of Wet-Dry Cycles and Rainfall on Highway Slope Made of Yazoo Clay, *Geosciences* 2019, 9 (341); doi:10.3390/geosciences9080341
12. Nobahar M., **Khan M. S.**, Ivoke J., and Amini F. (2019), " Impact of Rainfall Variation on Slope Made of Expansive Yazoo Clay Soil in Mississippi" *Transportation Infrastructure Geotechnology*, <https://doi.org/10.1007/s40515-019-00083-w>
13. Ahmed, A., Hossain, M.S., **Khan, M.S.**, and Shishani, A. (2018), "Data Based Real Time Moisture Modeling in Unsaturated Expansive Subgrade in Texas", *Transportation Research Record: Transportation Research Board*, 0361198118772960
14. Kibria, G., Hossain M.S., and **Khan M.S.** (2018), Determination of Consolidation Properties using Electrical Resistivity, *Journal of Applied Geoscience*, *J. of Applied Geoscience*, 152(2018), 150-160.
15. Mahedi, M., Hossain, M.S., Faysal, M. and **Khan, M.S.** (2017). Potential Applicability of Impact Echo Method on Pavement Base Materials as a Nondestructive Testing Technique. *Transportation Research Record: Transportation Research Board*, DOI: 10.3141/2657-06
16. **Khan, M.S.**, Hossain, M.S., Ahmed, A. and Faysal, M. (2016), "Investigation of a shallow slope failure on expansive clay in Texas", *Eng. Geol.*, <http://dx.doi.org/10.1016/j.enggeo.2016.10.004>
17. Manzur, S. R; Hossain, M.S., Kemler, V. and **Khan, M.S.** (2016), "Monitoring Extent of Moisture Variations Due to Leachate Recirculation in an Elr/Bioreactor Landfill using Resistivity Imaging", *Waste Management*, DOI: 10.1016/j.wasman.2016.02.035
18. **Khan, M.**, Hossain, S., and Kibria, G. (2015). "Slope Stabilization Using Recycled Plastic Pins." *J. Perform. Constr. Facil.*, 10.1061/ (ASCE) CF.1943-5509.0000809, 04015054.
19. Kibria, G., Hossain, M., and **Khan, M.S.** (2013). "Influence of Soil Reinforcement on Horizontal Displacement of MSE wall." *Int. J. Geomech.*, 10.1061/ (ASCE) GM.1943-5622.0000297 (Feb. 22, 2013).
20. Hossain, M.S., **Khan, M.S.**, Hossain, J., Kibria, G., and Taufiq, T. (2013). "Evaluation of Unknown Foundation Depth Using Different NDT Methods." *J. Perform. Constr. Facil.*, 27(2), 209–214.
21. Hossain, M., Kibria, G., **Khan, M. S.**, Hossain, J., and Taufiq, T. (2012). "Effects of Backfill Soil on Excessive Movement of MSE Wall." *J. Perform. Constr. Facil.*, 26(6), 793–802.

TRB Corundum of Papers

1. **Khan M. S.**, Nobahar M., Ivoke J., and Amini F. (2018), "Effect of Rainfall on Slope made of Yazoo Clay soil in Mississippi." *Proc. 97th Annual Meeting of Transportation Research Board, Washington D.C.*
2. **Khan M. S.**, Hossain M, S.; Ahmed A. and Nobahar M., (2018), "Simplified Design Method of Slope Stabilization Using Recycled Plastic Pin", *Proc. 97th Annual Meeting of Transportation Research Board, Washington D.C.*

3. Ahmed, A., Hossain, **M.S.**, **Khan**, M.S. and Greenwood, K. (2018), “*Use of Modified Moisture Barrier to Reduce Subsurface Moisture in Flexible Pavement in North Texas*”, *Proc. 97th Annual Meeting of Transportation Research Board, Washington D.C.*
4. Ahmed, A., Hossain, M.S., and **Khan, M.S.** (2018). “Unsaturated Hydraulic Properties and Suction Variation on a Pavement Subgrade Over Expansive Soil” *Proc. 97th Annual Meeting of Transportation Research Board, Washington D.C.*
5. Faysal M., Hossain, M.S., Salah, S. and **Khan, M., S.** (2017). Characterization of Strength and Long-Term Durability of Recycled Flex Base Materials. *Proc. 96thP Annual Meeting of Transportation Research Board, Washington D.C.*
6. Hossain, J., **Khan, M.S.**, Hossain, M.S. and Ahmed, A. (2016) “Determination of Active Zone in Expansive Clay in North Texas through Field Instrumentation”, *Proc. 95th Annual Meeting of Transportation Research Board, January 10-14, 2016, Washington, DC, USA.*
7. **Khan, M. S.**, Hossain, M. S., Ahmed, A. and Faysal, M. (2015). Investigation of Shallow Failure of a Highway Slope Constructed over Expansive Soil. *Proc. 94th Annual Meeting of Transportation Research Board, Washington D.C.*
8. **Khan, M. S.** and Hossain, M. S. (2015). Effect of Shrinkage and Swelling Behavior of High Plastic Clay on the Performance of a Highway Slope Reinforced with Recycled Plastic Pin. *Proc. 94th Annual Meeting of Transportation Research Board, Washington D.C.*
9. **Khan, M. S.**, Hossain, M. S., and Ahmed F. S. (2013). "A Comparative Study on Compressive Strength of Recycled Plastic Pin, Wood Lumber and Bamboo at Different Environmental Conditions". *92nd Transportation Research Board Annual Meeting. Transportation Research Board, January 13-17, Washington D. C.*

Peer Reviewed ASCE Geotechnical Special Publications and Other Proceedings

10. Salunke, R.; Nobahar, M.; Alzeghoul, O., and **Khan, M.S.**; (2023), Soil Moisture characterization from UAV-based Optical and Thermal Infrared (TIR) Images, under review for GeoCongress 2023 in Los Angeles, CA, from March 26-29, 2023
11. Chia, H., **Khan, M.S.**, Nobahar, M., (2023), Field Based performance of Helical Piles Installed in Expansive Clay, under review for GeoCongress 2023 in Los Angeles, CA, from March 26-29, 2023
12. Salunke, R.; Nobahar, M.; and **Khan, M.S.**; (2023), A Cross-Platform Approach Using Remote Sensing and Geophysical Monitoring to Streamline Geotechnical Asset Management, under review for GeoCongress 2023 in Los Angeles, CA, from March 26-29, 2023
13. Samir, S. and **Khan, M. S.**, (2023), WB Cover Using Vetiver Grass in Subtropical Climate, under review for GeoCongress 2023 in Los Angeles, CA, from March 26-29, 2023
14. Nobahar, M., **Khan, M.S.**, Farshad Amini, F. (2023), An Efficient Optimal Neural Network Model in Prediction of the Stability Factor of a Highway Slope Constructed on High Plastic Clay Soil in Mississippi, under review for GeoCongress 2023 in Los Angeles, CA, from March 26-29, 2023
15. Nobahar, M.; Salunke, R.; **Khan, M.S.**; and Amini, F. (2023), Early Warning Protocol For Highway Slope Failures In Mississippi, under review for GeoCongress 2023 in Los Angeles, CA, from March 26-29, 2023
16. **Khan M. S.**, Spears, A., Whalin R.W, Alzeghoul, O., and Chakraborty, A., (2023), Bio-Inspired Stabilization of a Levee Slope using Vetiver Grass on Highly Plastic Clay, under review for GeoCongress 2023 in Los Angeles, CA, from March 26-29, 2023

17. Chakraborty, A., **Khan M. S.**, Whalin R.W, Shuman, N. M., Spears, A., (2023), Vetiver grass as a Bio-Anchor to Stabilize Highway Slope, under review for GeoCongress 2023 in Los Angeles, CA, from March 26-29, 2023
18. Shuman, N. M., Nobahar, **M.**, **Khan, M.S.**, Alzeghoul, O., and Chia, H. (2022), Grass Performance on A Distressed Highway Slope of High Plastic Clay Under Excessive Rainfall, Accepted for GeoCongress 2022 in Charlotte, North Carolina, from March 20-23, 2022.
19. Nobahar, M., **Khan, M.S.**, Salunke, R., Chia, H., and Gardner, A., (2022), Condition Assessment of Highway Slopes using Field Instrumentation and Electrical Resistivity Imaging (ERI), Accepted for GeoCongress 2022 in Charlotte, North Carolina, from March 20-23, 2022.
20. Nobahar, **M.**, **Khan, M.S.**, Alzeghoul, O., Graham, G. and Young, K. (2022), Moisture Variation Monitoring of Failed and Not-Failed Highway Slope through Resistivity Imaging in Mississippi, Accepted for GeoCongress 2022 in Charlotte, North Carolina, from March 20-23, 2022.
21. **Khan M. S.**, Nobahar M., Hossain, M.S., and Ivoke J. (2021), Investigation of a Highway Slope Failure on Yazoo Clay Using Electrical Resistivity Imaging, Proc. Geo-Extreme 2021 in Savannah, GA from Nov 7-10, 2021.
22. Nobahar M., **Khan M. S.**, (2021) Prediction of Matric Suction of Highway Slopes Using Autoregression Artificial Neural Network (Ann) Model, Proc. Geo-Extreme 2021 in Savannah, GA from Nov 7-10, 2021.
23. Nobahar M., **Khan M. S.**, and Ivoke J., Nur, M.S., Amini, F. (2021) Coupled Hydro-Mechanical Analysis of Highway Slopes on Expansive Soil Subjected To Rainfall, Proc. Geo-Extreme 2021 in Savannah, GA from Nov 7-10, 2021.
24. **Khan M. S.**, Nobahar M., Stanley P.L., and Ivoke J. (2021), “Investigation of Underground Water Leakage using Ground Penetration Radar (GPR)”, Proc. IFCEE 2021: International Foundations Congress & Equipment Expo. <https://doi.org/10.1061/9780784483435.002>
25. **Khan M. S.**, Nobahar M., and Ivoke J. (2021), “Field Performance of a Highway Slope Made of Expansive Yazoo Clay in Mississippi”, Proc. IFCEE 2021: International Foundations Congress & Equipment Expo. <https://doi.org/10.1061/9780784483435.003>
26. **Khan M. S.**, Ivoke J., and Nobahar M., Kibria, G (2019), “Effect of wet-dry cycle on the void ratio of expansive yazoo clay soil”, Proc. Geo-Congress 2019, ASCE, Ruston, VA
27. **Khan M. S.**, Ivoke J., and Nobahar M., Kibria, G (2019), “Progressive Change in Shear Strength of Yazoo Clay Soil”, Proc. Geo-Congress 2019, ASCE, Ruston, VA
28. **Khan, M.S.**, Ahmed, A., and Hossain, M.S., (2017), “Determination of Spatial Variation of Unsaturated Vertical Permeability,” *Proc. Pan-AM Unsat 2017, Dallas, Texas.*
29. **Khan, M.S.**, Nobahar, M., Ivoke, J. and Amini, F., (2017), “Rainfall Induced Shallow Slope Failure Over Yazoo Clay In Mississippi”, *Proc. Pan-AM Unsat 2017, Dallas, Texas.*
30. Ahmed, A., Hossain, **M.S.**, **Khan, M.S.** and Shishani, A. (2017), “Data Based Real Time Moisture Modeling in Unsaturated Expansive Subgrade”, *Proc. Pan-AM Unsat 2017, Dallas, Texas.*
31. Alam, M.J., Hossain, M.S., Ahmed, A. and **Khan, M.S.**, (2017). “Comparison of Percolation of Flat and Slope Section Vegetated Lysimeters Using Field Soil Water Characteristic Curve” *Proc. Pan-AM Unsat 2017, Dallas, Texas.*
32. Ahmed, A., Hossain, M.S., Alam, M.J., and **Khan, M.S.** (2017), “Moisture and Matric Suction Behavior in Unsaturated Subgrade through Field Instrumentation and Numerical Modeling” *Proc. Pan-AM Unsat 2017, Dallas, Texas.*

33. Ahmed, A., Hossain, M.S., **Khan, M.S.**, Greenwood, K. and Shishani, A. (2017). *Moisture Variation on Expansive Subgrade through Field Instrumentation and Geophysical Investigation*. GeoMEast 2017.
34. Mahedi, M., Hossain, M.S., Faysal, M., **Khan, M.S.** and Ahmed, A. (2017). *Prediction of Strength and Stiffness Properties of Pavement Base Materials Using Non-Destructive Test*. GeoMEast 2017.
35. **Khan, M.S.**, Hossain, M.S., Khan, M.A. and Faysal, M. (2017), “Performance of Recycled Plastic Pin (RPP) for Slope Stabilization”, GeoMEast2017, Sharm El-Sheik, Egypt.
36. Salah, S. B., Hossain, M. S., Faysal, M., Bhattacharjee, S., **Khan, M. S.** (2017), “Effect of Wet-Dry Cycle on Durability of Cement-Stabilized Recycled Pavement Base Aggregates.” GeoMEast2017, Sharm El-Sheik, Egypt.
37. Mahedi, M., Sahadat Hossain, M. D., Ahsan, A. N., Ahmed, A., **Khan, M. S.**, & Greenwood, K. Potential Applicability of Slab Impulse Response (SIR) in Geophysical Investigation of Pavement Structures. In *Airfield and Highway Pavements 2017* (pp. 222-231).
38. **Khan, M.S.**, Hossain, M.S., Ahmed, A., Greenwood, K. and Shishani, A. (2017). *Parametric Study on Slope Stability using Recycled Plastic Pin*. GeoRisk 2017.
39. Khan, M.A., Hossain, M.S., **Khan, M.S.**, Samir, S. and Aramoon Al (2017), “Stress-Strain Characteristics of High PI Clay with the Variation of Wetting and Drying Cycle”, Geotechnical Frontiers, Orlando, Florida, USA.
40. Faysal, M.; Hossain, M.S.; Salah, S.; Bhattacharjee, S.; Thian, B.; and **Khan, M. S.** (2017), “Characterization of Geo-Environmental Properties of Untreated or Cement Treated Recycled Base Materials in Pavement Base Layer Applications” Geotechnical Frontiers, Orlando, Florida, USA.
41. **Khan, M. S.**, Hossain, M. S., and Lozano, N. (2014). “A Numerical Study on Slope Stabilization using Recycled Plastic Pin”. *Proc. Geo-Congress 2014, Geo-Characterization and Modeling for Sustainability*, Feb 23-26, ASCE, Reston, VA.
42. **Khan, M. S.**, Hossain, M. S., Lozano, N. and Kibria, G. (2014). “Temporary Lateral Support of a Concrete Retaining Wall Footing using Recycled Plastic Pin”. *Proc. Geo-Congress 2014, Geo-Characterization and Modeling for Sustainability*, Feb 23-26, ASCE, Reston, VA.
43. **Khan, M.S.**, Kibria, G. Hossain, M.S., Hossain, J., and Lozano, N (2013). “Performance Evaluation of a Slope Reinforced with Recycled Plastic Pin.” GSP-231, *Proc. Geo Congress 2013: 1733-1742*, March 3 – 6, ASCE, Reston, VA.
44. **Khan, M.S.**, Hossain, M.S., Hossain, J., and Kibria, G., (2012) “Determining Unknown Bridge Foundation depth by Resistivity Imaging (RI) method.” GSP 225, *Proc. Geo-Congress 2012: 275-284.*, March 25-29, ASCE, Reston, VA.
45. Hossain, J., Hossain M.S., Lozano, N., **Khan, M.S.**, and Kibria, G., (2012) “Investigation of Geohazard Potential of Highway Embankment Slope on Expansive Clay by using Geophysical method.” GSP 225, *Proc. Geo-Congress 2012: 634-642.*, March 25-29, ASCE, Reston, VA.
46. Kibria, G., Hossain, M., Hossain, J., and **Khan, M.S.**, (2012) Determination of Moisture Content and Unit Weight of Clayey Soil Using Resistivity Imaging (RI). *GeoCongress 2012: pp. 3398-3407.*
47. Hossain, M.S., Kibria, G., Hossain, J., and **Khan, M.S.**, (2012) “Investigation of Moisture Variation of Backfill Soil in MSE wall.” GSP 225, *GeoCongress 2012: 2629-2638*, Oakland, California, March 25-29, 2012.

Conference Proceedings

48. Hossain, M.S., Ahmed, A., **Khan, M.S.**, Aramoon, A., and Thian, B (2016). Expansive Subgrade Behavior in a State Highway in North Texas. *Geotechnical and Structural Engineering Congress*, February 14-17, Phoenix, Arizona.
49. Faysal, M., Mahedi, M., Hossain, M.S., Aramoon, A., and Thian, B and **Khan, M.S.** (2016). Strength Characterization of Untreated and Cement Treated Recycled Flex-Base Materials. *Geotechnical and Structural Engineering Congress*, February 14-17, Phoenix, Arizona.
50. Faysal, M., Mahedi, M., Aramoon, Al., Thian, B., Hossain, M.S., Khan, M.A., **Khan, M.S.** (2016). Determination of Structural Coefficient of Different Combinations of Cement Treated /Untreated Recycled Base Materials, *Proc. Geotechnical and structural engineering congress 2016*, Phoenix, Arizona, February 14-17, 2016.
51. Hossain, M. S., **Khan, M. S.** and Manzur, S. (2014). Monitoring Moisture Variations in an ELR/Bioreactor Landfill Using Resistivity Imaging. *Proc. ISWA 2014*, Sao Paulo-Brazil.
52. Hossain, M.S., Lozano, N., Hossain, J., and **Khan, M.S.**, (2012) “Investigation of Geo-hazard Potential of Highway Embankment Slopes on Expansive Clay.” Proceedings of the 3rd International Conference on Geotechnical Engineering for Disaster Mitigation and Rehabilitation, Semarang, Central Java, Indonesia
53. Ahmed, M. Z., Siddiquee, S. A. and **Khan, M. S.** (2012) “Reliability and Construction Practices in Building Construction Industry of Bangladesh” Third International Conference in Developing Countries, 4-6 July, Bangkok, Thailand.
54. Ahmed, M. Z., **Khan, M. S.**, Siddiquee, S. A., Hasan, M. M. and Kundu, K.K. (2012) “Risk Factors and Construction Practices in Building Construction Sector of Bangladesh” 3rd International Symposium (Jointly Organized by Bangladesh JSPS Alumni Association, Japan Society for the Promotion of Science and Embassy of Japan In Bangladesh, 24-25 February, Dhaka.

SELECTED RESEARCH REPORTS

1. **Khan, M.S.**, Amini, F. and Nobahar, M. (2020), “State Study 286: Performance Evaluation Highway Slope Made of Yazoo Clay”, Final Report Submitted to Mississippi Department of Transportation, Pp 251.
2. **Khan, M.S.**, Ivoke, J. & Nobahar, M., (2020), “Effect of Permeability Variation of Expansive Yazoo Clay at the Maritime and Multimodal Transportation Infrastructure in Mississippi”, Final report submitted to MarTREC at the University of Arkansas, a UTC funded by USDOT, Fayetteville, Arkansas. Pp 125.
3. **Khan, M.S.**, Ivoke, J. & Nobahar, M., (2018), “Effect of Swell-shrink Characteristics on Landslides in Yazoo Clay”, Final report submitted to MarTREC at the University of Arkansas, a UTC funded by USDOT, Fayetteville, Arkansas. Pp 89.
4. **Khan, M.S.**, Nobahar, M., Ivoke, J. (2017), “Development of a Design Protocol: Sustainable Stabilization of Slope Using Recycled Plastic Pin in Mississippi”, Final report submitted to MarTREC at the University of Arkansas, a UTC funded by USDOT, Fayetteville, Arkansas. Pp 76.
5. Hossain, M.S., **Khan, M.S.**, Faysal, M., and Ahmed, A. (2014) “Site Investigation and Remedial Design using Recycled Plastic Pins on a Slope Failure along SH 183 in the TxDOT Fort Worth District”, Report Submitted to Texas Department of Transportation (TxDOT), Fort Worth District. Pp 36.

6. Hossain, M.S., **Khan, M.S.**, Hossain, J., and Kibria, G. (2013) “Implementation of Slope Stabilization in Highway Loop 12 and US 287 slope using Recycled Plastic Pin” Final Report Submitted to Texas Department of Transportation (TxDOT), Dallas District. Pp 261.
7. Hossain, M.S., Hossain, J., **Khan, M.S.**, and Kibria, G. (2013) “Stability Analysis of the Failed Slope along Highway US 287 S near St. Paul Overpass and Proposed Remedial Measure. Task 1: Moisture Monitoring” Final Report – Submitted to Texas Department of Transportation (TxDOT), Dallas District. Pp 180.
8. Hossain, M.S., **Khan, M.S.**, Hossain, J. and Kibria, G. (2011) “Effect of Remolding on Shear Strength of High Plastic Clay Soil” Report Submitted to Texas Department of Transportation (TxDOT), Dallas District. Pp 89.
9. Hossain, M.S., Hossain, J., Kibria, G., **Khan, M.S.**, and Samir, S. (2011) “Slope Stability Analysis of the Failed Slope along IH 30 WB and Proposed Remedial Measure” Final Report Submitted to Texas Department of Transportation (TxDOT), Dallas District. Pp 83.
10. Hossain, M.S., Kibria, G., Hossain, J., **Khan, M.S.**, and Samir, S., (2011) “Determination of Geotechnical Properties of Clayey Soil from Resistivity Imaging (RI)” Final Report Submitted to Texas Department of Transportation (TxDOT), Dallas District. Pp 132.
11. Hossain, M.S., Hossain, J., **Khan, M.S.**, Kibria, G., and Samir, S., (2010) “Stability Analysis of the MSE Wall on State Highway 342 (Dallas Avenue) at Lancaster, Texas” Final Report Submitted to Texas Department of Transportation (TxDOT), Dallas District. Pp 56.
12. Hossain, M.S., Hossain, J., **Khan, M.S.**, Kibria, G., Samir, S., (2010) “Determination of Unknown Bridge Foundation on Mountain Creek over FM 2738, Fort Worth, Texas” Report Submitted to Texas Department of Transportation (TxDOT), Fort Worth District. Pp 24.
13. Hossain, M.S., Taufiq, T., Manzur, S., Sonia, S., and **Khan, S.** (2010) “Efficiency of Leachate Recirculation System for the City of Denton Landfill, Texas”. 5th Quarterly Report Submitted to Solid Waste Department, City of Denton, Texas. September 2010. Pp 67.
14. Hossain, M.S., **Khan, M.S.**, Kibria, G., Samir, S. and Alam, M.Z. (2013) “Investigation of Moisture Profile within the MSW at Cefe Valenzuela Landfill using Resistivity Imaging”, Report Submitted to Solid Waste Department, City of Corpus Christi, Texas. August 2013. Pp 39.

TECHNICAL PRESENTATIONS

TRB Webinar

1. Khan, M.S. and Stroud, M. (2021), “Infiltration that causes failure of Highway Slopes Made of Highly Plastic Clay”, TRB Webinar (part of The National Academies of Sciences, Engineering, and Medicine) presented on April 27, 2021, sponsored by the AKG 40 committee.

Conference Presentation

1. 101th Transportation research board meeting in January 2021 at Washington D.C., Lectern presentation titled Mapping the Extent of Landslides on Highway Slopes using Electrical Resistivity Imaging, Drones and LiDAR Imaging (Sponsoring Committee: AKG 20 Standing Committee on Soil and Rock Properties)
2. 101th Transportation research board meeting in January 2021 at Washington D.C., Lectern presentation titled Climate Adaptive Landslide Repair Using Deep Rooted Vetiver Grass

(Sponsoring Committee: AKG 40 Standing Committee on Mechanics and Drainage of Saturated and Unsaturated Geomaterials)

3. *101th Transportation research board meeting in January 2021 at Washington D.C.*, poster presentation titled AASHTO SWEET 16: Performance Evaluation of Highway Slopes on Yazoo Clay
4. *101th Transportation research board meeting in January 2021 at Washington D.C.*, poster presentation titled TRBAM 22-02608 Development of Soil Moisture Content and a Soil Matrix Suction Model Based on Field Instrumentation and Electrical Resistivity Imaging (Sponsoring Committee: AKG 40 Standing Committee on Mechanics and Drainage of Saturated and Unsaturated Geomaterials)
5. *101th Transportation research board meeting in January 2021 at Washington D.C.*, poster presentation titled TRBAM 22-02642 Identifying Unsaturated Variations of Highway Slopes Using Coupled Electrical Resistivity Imaging and Field Instrumentation (Sponsoring Committee: AKG 40 Standing Committee on Mechanics and Drainage of Saturated and Unsaturated Geomaterials)
6. *101th Transportation research board meeting in January 2021 at Washington D.C.*, poster presentation titled TRBAM-22-00799 Greening Roadway Infrastructure with Vetiver Grass to Support Transportation Resilience (Sponsoring Committee: AMR 10 Standing Committee on Critical Transportation Infrastructure Protection)
7. *101th Transportation research board meeting in January 2021 at Washington D.C.*, Lectern presentation titled TRBAM 22-03660 Performance-Based Design Method for Multiple Helices of Helical Pile in Cohesionless Soil (Sponsoring Committee: AKG 70 Standing Committee on Foundations of Bridges and Other Structures)
8. *101th Transportation research board meeting in January 2021 at Washington D.C.*, Lectern presentation titled TRBAM 22-03792 Numerical Investigation Hydraulic Conductivity Variation on Highway Slopes made of Expansive Yazoo Clay (Sponsoring Committee: AKG 40 Standing Committee on Mechanics and Drainage of Saturated and Unsaturated Geomaterials)
9. AGU Fall 2021 meeting in New Orleans, LA, from December 13-17, 2021, Podium Presentation titled, “Assessment of Failed Highway Slopes Constructed on Expansive Clay using Electrical Resistivity Imaging (ERI) and Field Monitoring Data”
10. AGU Fall 2021 meeting in New Orleans, LA, from December 13-17, 2021, Podium Presentation titled, “Multi-faceted slope performance monitoring of a failed slope built on expansive clay”.
11. AGU Fall 2021 meeting in New Orleans, LA, from December 13-17, 2021, Podium Presentation titled, “Climate Resilient Landslide Repair Using Deep Rooted Vetiver Grass on Expansive Soil”.
12. 2021 MS ASCE Section Meeting in Gulfport, MS from September 15-17, 2021, podium presentation, “Proactive Landslide Repair on Yazoo Clay Using Deep Rooted Vetiver Grass”.
13. Geo-Extreme 2021 in Savannah, GA from Nov 7-10, 2021, podium presentation titled “Investigation of a Highway Slope Failure on Yazoo Clay Using Electrical Resistivity Imaging”.
14. Geo-Extreme 2021 in Savannah, GA from Nov 7-10, 2021, podium presentation titled “Prediction of Matric Suction of Highway Slopes Using Autoregression Artificial Neural Network (Ann) Model”.
15. Geo-Extreme 2021 in Savannah, GA from Nov 7-10, 2021, podium presentation titled “Coupled Hydro-Mechanical Analysis of Highway Slopes on Expansive Soil Subjected To Rainfall”.

16. IFCEE 2021: International Foundations Congress & Equipment Expo in Dallas, Texas from May 10-14, 2021, podium presentation titled "Investigation of Underground Water Leakage using Ground Penetration Radar (GPR)".
17. IFCEE 2021: International Foundations Congress & Equipment Expo in Dallas, Texas from May 10-14, 2021, poster presentation titled "Field Performance of a Highway Slope Made of Expansive Yazoo Clay in Mississippi".
18. *100th Transportation research board meeting in January 2021 at Washington D.C., poster presentation titled "Stabilization of the Highway Slope Constructed on Expansive Soil Using Recycled Plastic Pins (RPPs)".*
19. *100th Transportation research board meeting in January 2021 at Washington D.C., poster presentation titled "Progressive Development of the Perched Water Zone in Highway Slopes Made of Highly Plastic Clay".*
20. *100th Transportation research board meeting in January 2021 at Washington D.C., poster presentation titled "Simplified Design Method for Small Diameter Helical Pile".*
21. *100th Transportation research board meeting in January 2021 at Washington D.C., poster presentation titled "Evaluation of Effective Stress-Beta Method's Design Coefficients Using Machine Learning".*
22. *100th Transportation research board meeting on January 2021 at Washington D.C., poster presentation titled "Data Driven Soil Moisture Prediction Model Using Artificial Neural Network (ANN)".*
23. *100th Transportation research board meeting in January 2021 at Washington D.C., poster presentation titled "Unsaturated Hydraulic Conductivity Variation of Expansive Yazoo Clay with Wet-Dry Cycles".*
24. *Louisiana Transportation Conference on March 1-4, 2020 at Baton Rouge, LA, podium presentation on "Slope Stabilization using Recycled Plastic Pins"*
25. *99th Transportation research board meeting on January 12 to January 16, 2020 at Washington D.C., Podium Presentation at AFS20, Standing Committee on Geotechnical Instrumentation and Modeling on "Artificial Neural Network (ANN) based predictive Soil Temperature model of High Plastic Yazoo Clay"*
26. *99th Transportation research board meeting on January 12 to January 16, 2020 at Washington D.C., Poster Presentation on "Artificial Neural Network (ANN) based predictive Soil Temperature model of High Plastic Yazoo Clay"*
27. *99th Transportation research board meeting on January 12 to January 16, 2020 at Washington D.C., Poster Presentation on "Artificial Neural Network (ANN) based predictive Soil Temperature model of High Plastic Yazoo Clay"*
28. *99th Transportation research board meeting on January 12 to January 16, 2020 at Washington D.C., Poster Presentation on "Failure Analysis of a Instrumented Highway Slope on Yazoo Clay"*
29. *99th Transportation research board meeting on January 12 to January 16, 2020 at Washington D.C., Poster Presentation on "Safety Prediction Model for Reinforced Highway Slope Using Machine Learning Method"*
30. *SSCET 2019 in September 13, 2019 in New Orleans, LA, podium presentation titled "Highway slopes made of Yazoo clay: Failure Mechanism and Possible Repair"*
31. 2019 Geo-Congress held on March 24 - 27, 2019 in Philadelphia, PA, poster presentation titled "Effect of wet-dry cycle on the void ratio of expansive yazoo clay soil".
32. 2019 Geo-Congress held on March 24 - 27, 2019 in Philadelphia, PA, poster presentation titled "Progressive Change in Shear Strength of Yazoo Clay Soil".

33. 98th Annual Meeting of Transportation Research Board, January 13-17, 2019, Washington, DC, USA, Poster Presentation titled “Impact of Wet-Dry Cycles on The Stability of Highway Slope Made of Yazoo Clay Soil”.
34. 98th Annual Meeting of Transportation Research Board, January 13-17, 2019, Washington, DC, USA, Poster Presentation titled “Numerical Investigation of Slope Stabilization Using Recycled Plastic Pin on Yazoo Clay”.
35. 98th Annual Meeting of Transportation Research Board, January 13-17, 2019, Washington, DC, USA, Poster Presentation titled “Progressive Change in Stability of A Highway Slope Made of Yazoo Clay Soil”.
36. 97th Annual Meeting of Transportation Research Board, January 7-11, 2018, Washington, DC, USA, presented in TRB committee on soil and rock properties (AFP30) meeting. Presentation titled “Simplified Design Method of Slope Stabilization Using Recycled Plastic Pin.”
37. 97th Annual Meeting of Transportation Research Board, January 7-11, 2018, Washington, DC, USA, poster presentation titled “Simplified Design Method of Slope Stabilization Using Recycled Plastic Pin.”
38. 97th Annual Meeting of Transportation Research Board, January 7-11, 2018, Washington, DC, USA, poster presentation titled “Effect of Rainfall on Slope made of Yazoo Clay soil in Mississippi.”
39. Pan-AM Unsat 2017, held on Nov 12-15, 2017 in Dallas, TX, Lectern Presentation Title: “Determination of Spatial Variation of Unsaturated Vertical Permeability”.
40. Pan-AM Unsat 2017, held on Nov 12-15, 2017 in Dallas, TX, Lectern Presentation Title: “Rainfall Induced Shallow Slope Failure over Yazoo Clay in Mississippi”.
41. GeoRisk 2017, held on June 4-7, 2017 in Denver, CO, Lectern Presentation Title: “Parametric Study on Slope Stability using Recycled Plastic Pin”.
42. 9th Geo³ T² Conference (2017), held on April 11 to April 12 in Cary, NC. Lectern Presentation title: “Design Method for Slope Stabilization Using Recycled Plastic Pin”.
43. 9th Geo³ T² Conference (2017), held on April 11 to April 12 in Cary, NC. Lectern Presentation title: “Case Studies: Long Term Performance of Highway Slopes Stabilized with Recycled Plastic Pin”.
44. STGEC 2016: November 7 – 10, 2016, Biloxi, MS, Lectern presentation titled “Expansive Clay Problems in Transportation Geotechnics: Site Investigation, Performance Monitoring and Sustainable Solutions.”
45. SSCET 2016, August 26, 2016, Jackson, MS, Lectern presentation titled “Sustainable Slope Stabilization Using Recycled Plastic Pin”.
46. 95th Annual Meeting of Transportation Research Board, January 10-14, 2016, Washington, DC, USA, presented in TRB Subcommittee on Geophysics (AFP20(1)) meeting. Presentation titled “Site Investigation of Highway Slopes using Electrical Resistivity Imaging Technique.”
47. 95th Annual Meeting of Transportation Research Board, January 10-14, 2016, Washington, DC, USA, Poster presentation titled “Determination of Active Zone in Expansive Clay in North Texas through Field Instrumentation.”
48. MS ASCE section meeting, Sep 30-Oct 2, 2015, Raymond, MS, Lectern presentation titled “Site Investigation of Highway Slopes Using Electrical Resistivity Imaging Technique”.
49. MS ASCE section meeting, Sep 30-Oct 2, 2015, Raymond, MS, Lectern presentation titled “Stabilization of Shallow Slope failure on Expansive Clay using Recycled Plastic Pin”.

50. 8th Geo³ T² Conference (2015), held on April 9 to April 10 in Cary, NC. Lectern Presentation title: “Stabilization of Shallow Slope failure on Expansive Clay using Recycled Plastic Pin”.
51. 8th Geo³ T² Conference (2015), held on April 9 to April 10 in Cary, NC. Poster Presentation title: “Site Investigation of Highway Slopes Using Resistivity Imaging Technique”.
52. 8th Geo³ T² Conference (2015), held on April 9 to April 10 in Cary, NC. Poster Presentation title: “Behavior of Expansive Subgrade on A State Highway in North Texas”.
53. 94th TRB (2015), held on January 11 to January 15, 2015 in Washington, D.C. Poster Presentation Title: “Effect of Shrinkage and Swelling Behavior of High Plastic Clay on the Performance of a Highway Slope Reinforced with Recycled Plastic Pin.”
54. 94th TRB (2015), held on January 11 to January 15, 2015 in Washington, D.C. Poster Presentation Title: “Investigation of Shallow Failure of a Highway Slope Constructed over Expansive Soil”.
55. GeoCongress 2014 held on February 23 to February 26, 2014 in Atlanta, GA, Poster Presentation title: “A Numerical Study on Slope Stabilization using Recycled Plastic Pin”
56. GeoCongress 2014 held on February 23 to February 26, 2014 in Atlanta, GA, Poster Presentation title: “Temporary Lateral Support of a Concrete Retaining Wall Footing using Recycled Plastic Pin”
57. Geo-Congress 2013, held on March 3 to March 6, 2013 in San Diego, CA. Lectern Presentation title: “Performance Evaluation of a Slope Reinforced with Recycled Plastic Pin”
58. 2013 Texas Section Spring Conference & Centennial Celebration held on March 19 to March 23, 2013 in Corpus Christi, TX. Lectern Presentation title: “Field Performance of A Highway Slope in Texas Reinforced with Recycled Plastic Pin”
59. 92nd TRB meeting (2013), held on January 13 to January 14, 2013 in Washington D.C. Lectern Presentation title: “A Comparative Study on Compressive Strength of Recycled Plastic Pin, Wood Lumber and Bamboo at Different Environmental Conditions”
60. Geo-Congress 2012, held on March 25 to March 29, 2012 in Oakland, CA. Poster presentation title: “Determining Unknown Bridge Foundation depth by Resistivity Imaging (RI) method”
61. Geo-Frontier 2011, held on March 13 to March 16, 2011 in Dallas, TX. Poster presentation title: “Determination of Unknown foundation depth using NDT methods”.

RESEARCH PROJECT EXPERIENCES

Pending Projects

1. Green Landslide Repair using Deep Rooted Vetiver Grass for MDOT. Under review by Mississippi Department of Transportation. Total Budget \$350K, Project Duration: 2 years, From January 2023 to December 2024 (PI).
2. Large-scale CoPe: Community Opportunities and Outcomes for Antifragile Systems, Technology, and Learning Hub (COASTAL-Hub), Proposal Under Review in NSF, Total Budget: \$2M, August 2022 to July 2027.
3. Detection of Large-scale Soil Moisture Content, Pore Water Pressure, and Matric Suction Using Electrical Resistivity Imaging Technique, Proposal Under Review in FRA, Total Budget: \$477.8k, June 2022 to May 2025.

Current Projects

Associate Professor (August 2021 to present)

1. LEAP-HI: A data-driven Fragility Framework for Risk Assessment of Levee Breach, Project Funded by National Science Foundation (NSF). Duration 1 years, Total Budget: \$2M (Lead Institution: University of South Carolina, JSU Share at Co-PI: \$476.7k. From August 2022 to July 2027.
2. "Track 1" for Planning or Conference Grant, CO₂ Sequestration and Storage using Vetiver Grass on Coastal Wetlands, Proposal under Review in NSF, Total Budget: \$90k, (Co-PI), From May 2022 to December 2023.
3. Stabilization of Airfield Pavement Subgrade using Recycled Plastic Pin, Project Funded by US Army Corps of Engineers (ERDC), Duration 1 years, Total Budget: \$50k. From August 2021 to July 2022 (PI).
4. CAREER: Climate Resilient Landslide Repair on Expansive Soil Using Vetiver Grass, Project Funded by National Science Foundation (NSF). Total Budget \$539k, Project Duration 5 years, From May 2021 to April 2026 (PI)
5. Advanced Landslide Investigation protocol using Geophysical Testing. Project Funded by Mississippi Department of Transportation. Total Budget \$300K, Project Duration: 2 years, From July 2020 to June 2023 (PI)
6. Bio-Inspired Stabilization of Levee Slope on Expansive Yazoo Clay at the Maritime and Multimodal Transportation Infrastructure in Mississippi, (Project Funded by MarTRAC of University of Arkansas, a transportation research center (UTC) funded by USDOT). \$172.5 K, From April 2020 to December 2022 (PI).
7. Evaluation of Helical Pile in Expansive Soil, Project supported by Cantsink, From June 2021 to December 2022.

Completed Research Projects

Assistant Professor (August 2015 – July 2021)

Jackson State University (JSU)

1. Performance Evaluation of Highway Slopes on Yazoo Clay. Project Funded by Mississippi Department of Transportation. Total Budget \$196K, Project Duration: 2 years, From Feb 2018 to June 2020. My role: PI
2. Investigation of the Moisture Variation at Pavement Subgrade on Expansive Soil, (Project Funded by MarTRAC of University of Arkansas, a transportation research center (UTC) funded by USDOT). (\$86.25 K, September 2018-Current), My role: PI.
3. Effect of Swell-Shrink Characteristics on Landslides in Yazoo Clay, (Project Funded by MarTRAC of University of Arkansas, a transportation research center (UTC) funded by USDOT). (\$86.25K, July 2017-June 2018), My role: PI.
4. Development of A Design Protocol: Sustainable Stabilization of Slope Using Recycled Plastic Pin in Mississippi (Project Funded by IMTrans, a transportation research center funded by USDOT). (\$86.25K, May 2016-Oct 2017), My role: PI.
5. Airborne Survey System for Enhancement of Surveying Lab, (Project Funded by Mississippi Board of Licensure for Professional Engineers and Surveyors). (\$31.1K, Jan 2019-May 2019), My role: PI.

Rejected Research Proposals

1. Excellence in Research: Climate-Driven Coupled Hydro-Mechanical-Time Dependent Model of Expansive Soil Subjected to Cyclic Wet-Dry Cycles, Proposal Under Review in NSF, Total Budget: \$500k, From August 2022 to July 2025.
2. Khan, M.S., “CAREER: Novel Bio-Inspired & Climate Resilient Landslide Repair Using Deep Rooted Vetiver Grass on Expansive Soil”, submitted to NSH Career program in August 11, 2020. Total Budget: \$540k, under review.
3. Ahmed, A. and Khan, M.S., Early Prediction of Pavement Degradation Under Freeze-Thaw Loading Using Advanced, Multi-Sensor Tools, submitted to NJDOT on 09.30.2020, Total Budget \$1.5 M, JSU share: \$500k, under review.
4. Twilley, R. et al., (2019) A National Center for Mississippi River Basin: Collaborative Ecosystem Design with Nature and Culture (MRB DESIGN CENTER). Submitted by LSU. My role: PI for JSU Share 250k, Rejected.
5. Amini, F., Khan, M.S., and Li, L., “EIR: Interaction of Vetiver Grass with Slopes on High PI clay under multi-hazard condition”, submitted to NSH HBCU UP in October 03, 2019. Total Budget: \$1M. rejected.
6. Khan, M.S, and Amini, F., “Excellence In Research: The Effect of Unsaturated Parameters on Electrical Resistivity of Soil” NSF HBCU UP EIR on October 02, 2018, Total Budget: \$500K. rejected.
7. Khan M.S, “Prioritizing Highway Slope Maintenance for Alabama Department of Transportation” submitted to UAH for possible funding through ALDOT on Sep 10, 2018, Total Budget \$155K.
8. Khan, M.S, and Amini, F., “Acquisition of Multichannel Electrical Resistivity Imaging System to Establish Geophysical Testing Capability for Jackson State University”, Submitted to ARO-DOD HBCU MI program, Total Budget: \$ 275K
9. Khan, M.S., Collaborative Proposal: Research Capacity Building at Two HBCUs on New Challenges in Sustainable Solid Waste Management Research. Submitted to NSF HBCU UP EIR on March 01, 2018, Total Budget: \$1M-JSU Share 500k. My Role: Co-PI.
10. Khan, M.S., Collaborative proposal: large scale swell-shrink characterization of Expansive soil, Proposal submitted to NSF with a collaboration of JSU and USRA. My Role: PI. Budget 180,845.
11. Khan, M.S., “Research Initiation Award: Investigation of the Effect of Moisture Content and Matric Suction on Electrical Resistivity of Clay Soil”. Submitted to NSF HBCU UP on October 2017, Total Budget \$300K, rejected.
12. Khan, M.S., “Career: Effect of Excessive Drought and Rainfall on Landslides over Expansive Soil”, Submitted to NSF CMMI in June 2017. Total Budget \$539K, rejected.
13. Khan, M.S., “Career: Effect of Climate Change on Slope Failure over Expansive Soil. Submitted to NSF CMMI in June 2016. Total Budget \$518K, Rejected.
14. Khan, M.S., “RII Track 4: Collaborative Research to Advance Enhanced Landfill Mining”, Submitted to NSF EPSCoR program, Total Budget: \$213,676. Rejected.
15. Khan, M.S., “Gulf Research Fellowship for Early Career Faculty. Fellowship”, budget amount: \$75000, Rejected
16. Das, H and Khan, M.S., “Building Louisiana coastal resilience to shocks and stressors through collaborative citizen-expert data collection, analysis, and intervention” (Submitted to Gulf Research Institute, Major Research Institute: Northwestern University, Project Director a Total Budget 1.5M, JSU share \$150K), Rejected.

17. Khan, M.S. and Amini, F. “Acquisition of Multichannel Electrical Resistivity Imaging System for Interdisciplinary research at Jackson State University”, Submitted to Army Research Office, Total Budget \$273.7K, Rejected.
18. Khan, M.S., “Career: Effect of Climate Change on Slope Failure over Expansive Soil. Submitted to NSF CMMI in June 2016. Total Budget \$518K, Rejected.
19. Khan, M.S. and Amini, F. “Development of Climate Adaptive Design Protocol For Highway Slope on Yazoo Clay”, Submitted to Mississippi Department of Transportation in summer 2016, Total Budget \$305K., Rejected.
20. Khan M.S. and Amini, F. “Concept Paper: Highway Slope Stabilization using Recycled Plastic Pins”, Submitted to Mississippi Department of Transportation, rejected
21. Das, H and Khan, M.S., “Expression of Interest (EOI): Development of Climate Change Resilient Flood Management System in Bangladesh. Submitted to US AID. Rejected.
22. Khan, M.S and Das, H. “Marsh Habitat Monitoring”, Proposal Submitted to Mississippi department of environmental quality, budget: \$820,000, rejected.

Previous Research Projects

Post-Doctoral Research Associate (January 2014-August 2015),

The University of Texas at Arlington (UTA)

1. Stabilization of Highway slopes over I35 near Mockingbird Road at Dallas, Texas.
2. Stabilization of Highway slopes over SH 183 near SH 360 at Fort Worth, Texas.
3. Evaluation of Modulus of Subgrade Reactions for Pavement Sections at Horseshoe project and I35, Dallas, Texas.
4. Instrumentation of subgrade soil to monitor the PVR and deformation of Pavement of SH 342, Lancaster, Texas
5. Evaluation of Unconfined Compressive Strength and Resilient Modulus of Flexbase and RAP for pavement application.

Graduate Research Assistant (January 2010-December 2013),

The University of Texas at Arlington (UTA)

6. Slope Stabilization using Recycled Plastic Pins along Highway 287 South at St. Paul Overpass, Midlothian, Texas.
7. Forensic Investigation and Slope Stabilization using Recycled Plastic Pins along Loop 12 East near UP RR overpass, Dallas, Texas.
8. Forensic Investigation on the Causes of Excessive Movement of MSE Wall at State Highway 342 Lancaster, Texas.
9. Determination of Unknown Bridge Foundation Depth on Mountain Creek over FM 2738, Fort Worth, Texas.
10. Monitoring Performance of Leachate Recirculation of the City of Denton MSW Landfill, Denton, Texas.
11. Monitoring Performance of Leachate Recirculation of the City of Denton MSW Landfill, Denton, Texas.

PROFESSIONAL EXPERIENCES

Project Coordinator (April 2009- December 2009),

Sinamm Engineering Limited, Dhaka, Bangladesh.

1. Construction of 132/33 KV Substation at Jaypurhat, Bangladesh (*Project Funded by Power Grid Company of Bangladesh Limited*).
2. Construction of 50 cast in situ piles for 150 MW peaking power plant at Shikalbaha, Chittagong, Bangladesh (*Project Funded by Bangladesh Power Development Board*).
3. Load test for 3 test piles for 150 MW peaking power plant at Shikalbaha, Chittagong, Bangladesh (*Project Funded by Bangladesh Power Development Board*).

Assistant Manager, (December 2007- March 2009),

Sinamm Engineering Limited, Dhaka, Bangladesh.

4. Site Investigation and Laboratory testing for 150 MW peaking power plant at Shikalbaha, Chittagong, Bangladesh (*Project Funded by Bangladesh Power Development Board*)
5. Structural and Foundation design of a Six Storied Residential Building at Uttara, Dhaka, Bangladesh
6. Structural and Foundation design of a Five Storied Residential Building at Dhanmondi, Dhaka, Bangladesh
7. Construction of a Shoe Factory Building at Adamjee EPZ, Narayangonj, Bangladesh (*Project Funded by Super Protective Shoes (PVT.) LTD*)

Assistant Engineer, (June 2007- November 2007),

China National Electric Wire & Cable Import/Export Corporation (CCC), Dhaka, Bangladesh.

8. Construction of 230/132 KV Substation at Savar, Dhaka, Bangladesh (*Project Funded by Power Grid Company of Bangladesh Limited*).

GRADUATE STUDENT ADVISEMENT

Current Students:

1. **Rakesh Salunke (Ph.D.)**
Dissertation Title: “Condition Assessment of Geotechnical Asset using UAV Drone and LiDAR”
Tentative Graduation Date: Spring 2023
2. **Henry Chia (Ph.D.)**
Dissertation Title: “Field Performance Evaluation of Helical Pile based Foundation System in Expansive Soil”
Tentative Graduation Date: Spring 2023
3. **Amber Spears (Ph.D.)**
Dissertation Title: “Climate Adaptive Slope Stabilization using Vetiver Grass”
Tentative Graduation Date: Spring 2024
4. **Avipriyo Chakraborty (Ph.D.)**
Dissertation Title: “Soil Water Balance of Slope Reinforced with Deep Rooted Vetiver Grass”
Tentative Graduation Date: Fall 2024
5. **Omer Alzeghoul (M.S.)**

Thesis Title: “Stabilization of Airfield Pavement reinforced with Recycled Plastic Pin”

Graduation Date: Spring 2022.

6. **Amier Gardner (M.Eng.)**

Tentative Graduation Date: Summer 2022.

Former Students

1. **Masoud Nobahar (Ph.D)**

Dissertation Title: “Development of An Early Warning Protocol of Highway Slopes on Yazoo Clay”

Graduation Date: Spring 2022

2. **John Ivoke (Ph.D.)**

Dissertation Title: “Effect of Wet-Dry Cycles on Hydromechanical Properties Of Expansive Yazoo Clay”

Graduate Date: Fall 2020

3. **Henry Chia (M.E.)**

Graduate Date: Fall 2020

4. **Kang Du (M.S.)**

Dissertation Title: “Correlation of Pavement Texture with Skid Resistance Measurements in Mississippi”

Graduate Date: Fall 2019

5. **Devin Crawford (M.E.)**

Graduate Date: Spring 2019

6. **John Ivoke (M.E.)**

Graduate Date: Spring 2018

UNDER-GRADUATE STUDENT INVOLVEMENT IN RESEARCH

1. Edalit Viveros Amador
2. Tyler Wells
3. Shawn Miller
4. George Graham
5. Kyle Young
6. Sidney Wright
7. Patrick Stanley
8. Katia Lele
9. Dante Thornton

TEACHING EXPERIENCE

Graduate Level Course

Development of New Courses

1. CIV 681-Excavation Support Systems and Retaining Structures (Fall 2018, JSU)
2. CIV 682- Computational Geotechnics (Fall 2019, JSU)
3. CIV 683-Soil Structure Interaction (Fall 2017, Spring 2020 JSU)
4. CIV 684- Advanced Site Characterization and Instrumentation (Spring 2017, Fall 2021 JSU)

Improved existing Curriculum

5. CIV 672 Advanced Geomechanics (Fall 2020, JSU)

6. CIV 542- Advanced Design of Concrete Structures (Spring, 2017, Spring 2018-JSU)
7. CIV 640- Finite Element Methods (Fall 2016, JSU)
8. CIV 675- Earth Dam and Slopes (Spring 2016, Spring 2018, Spring 2020 JSU)
9. CIV 679-Advanced Topics in Geotechnical Engineering-Computational Geotechnics (Fall 2015, JSU)
10. CE 6313-Design of Earth Dams (Spring 2015, UTA)
11. CE 5369-Computational Geotechnics (Spring 2014, Spring 2015, UTA)

Undergraduate Level Course

1. CIV 477- Advanced Design of Concrete Structures (Spring 2017, JSU)
2. CIV 451- Computer Methods for Civil Engineers (Fall 2016, Fall 2017, Fall 2018, Fall 2019 JSU)

UNIVERSITY SERVICES

1. Faculty Advisor: ASCE student chapter at Jackson State University, from Fall 2017 to present.
2. Senator at Faculty Senate, from Fall 2019 to present.
3. Member, University Undergraduate Curriculum Committee, from Fall 2016 to Summer 2017
4. Department Representative to Faculty Senate (August 2018-present)
5. College Performance-Based Compensation (August 2018-present)

TECHNICAL COMMITTEE MEMBERSHIP

1. Committee Communication Coordinator and Member, AKG 20- TRB Standing Committee on Soil and Rock Properties and Site Characterization
2. Member, AKG 40- TRB Standing Committee on Mechanics and Drainage of Saturated and Unsaturated Geomaterials
3. Member, GI Technical Committee on Unsaturated Soils, ASCE
4. Member, GI Technical Committee on Shallow Foundations, ASCE
5. Panel Member of NCHRP Project Panel C01-59
6. Session Co-Chair of 23/ Pipeline and Transportation Structures in Unsaturated Soils of PAN-AM UNSAT 2017, in Dallas, Texas.
7. Member, Environmental Committee, SAME.
8. Member, Levee Committee, US Society of Dams.
9. Member, Foundation Committee, US Society of Dams

REVIEW ACTIVITIES

1. Journal of Transportation Research Record
2. ASCE Journal of Pipeline Systems Engineering and Practice
3. ASCE International Journal of Geomechanics.
4. ASCE Journal of Materials in Civil Engineering
5. Springer Sustainable Civil Infrastructures
6. Geotechnical and Geological Engineering
7. Transportation Geotechnics
8. ASTM Geotechnical Testing Journal
9. Journal of Transportation and Traffic Engineering
10. Geomatics, Natural Hazards and Risk
11. Landslides

12. ASCE Geotechnical Special Publication

GUEST EDITOR

1. Khan, M.S. and Ahmed, A. (2022), Slope Stability Analyses and Remedial Measure of Failed Slopes, Special Issue in Geosciences (ISSN 2076-3263) MDPI.
2. Islam, M.R.; Khan, M.S. and Ahmed, A. (2022) Geomaterials for Transportation Infrastructures, Special Issue in Infrastructures (ISSN 2412-3811) MDPI.
3. Khan, M.S. (2022), "Climate Adaptive Sustainable Solutions in Geotechnical and Geo-Environmental Engineering", Special Issue in Sustainability (ISSN 2071-1050) MDPI.

PROFESSIONAL AFFILIATION

1. Member of American Society of Civil Engineers (ASCE)
2. Member Society of American Military Engineers (SAME)
3. US Society of Dams (USSD).
4. Association of State Dam Safety Officials (ASDSO)

STUDENT's SUCCESS

1. Amber Spears nominated as 2022 NHERI RAPID Graduate Scholar.
2. Rakesh Salunke nominated for travel grant for 2022 NHERI Rapid Workshop
3. Masoud Nobahar received Outstanding Dissertation Award from the Civil Engineering Department at Jackson State University.
4. Masoud Nobahar won 1st prize in university wise 2019 graduate research paper competition from Academic Affairs at Jackson State University.
5. Patrick Stanley won 2020 ASCE Student Leadership Award from ASCE.
6. Patrick Stanley won 2019 ASCE Civil Engineering Student of the Year from ASCE MS Section.
7. Patrick Stanley won 2nd prize in Mead paper competition in 2018 Deep South Conference in Ruston, LA.