

Biographical Sketch

Rifat Bulut

Professor

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(A) PROFESSIONAL PREPARATION

Middle East Technical University	Ankara, Turkey	Civil Engineering	B.S., 1993
Texas Tech University	Lubbock, Texas	Civil Engineering	M.S., 1996
Texas A&M University	College Station, Texas	Civil Engineering	Ph.D., 2001
Fugro South, Inc.	Dallas, Texas	Civil Engineering	Site-Engineer, 2001-2003
Texas Transportation Institute	College Station, Texas	Civil Engineering	Post-doctoral Research Fellow, 2003-2006

(B) APPOINTMENTS

2018-Current	Professor, School of Civil and Environmental Engineering, Oklahoma State University, Stillwater, Oklahoma
2012-2018	Associate Professor, School of Civil and Environmental Engineering, Oklahoma State University, Stillwater, Oklahoma
2006-2012	Assistant Professor, School of Civil and Environmental Engineering, Oklahoma State University, Stillwater, Oklahoma

(C) PRODUCTS

(i) Most Closely Related to the Proposed Project

1. Javid, A.H. and **Bulut, R.** 2019. Evaluating Equilibrium Matric Suctions Under Pavement System Based on Thornthwaite Moisture Index (TMI). International Airfield and Highway Pavements Conference (T&DI), Chicago, July 21-24, 2019. (Accepted).
2. Chen, L., **Bulut, R.**, Clarke, C.R., and Nevels, J.B. 2017. Influence of Maximum Water Storage on Thornthwaite Moisture Index. PanAM-UNSAT 2017 International Conference. Dallas, Texas. *ASCE Geotechnical Special Publication*. No. 302. pp. 319-328.
3. Soltani, H., Muraleetharan, K.K., **Bulut, R.**, and Zaman, M. 2016. Prediction of Soil Suction Using Measured Climatic Data. *Environmental Geotechnics Journal*. <https://doi.org/10.1680/jenge.15.00064>.
4. Nevels, J.B., Clarke, C.R., Chen, L., and **Bulut, R.** 2016. A Site Assessment of Pavement Cracking in a Drought Environment: A Case History. E35 Web Conf. Vol. 9. E-UNSAT 2016 Conference, Paris, France, p. 5.
5. Yue, E. and **Bulut, R.** 2014. Evaluation of the Climatic Factors for the Classification of Oklahoma Pavement Regions. Geo-Congress 2014. Atlanta, Georgia. *ASCE Geotechnical Special Publication*. No. 234:4037-4046.

(ii) Other Significant Products

1. Al-Dakheeli, H. and **Bulut, R.** 2019. The Interrelationship between Elastic Deformation and Soil-Water Characteristic Curve of Expansive Soils. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*. 145(4):1-12.

2. Al-Dakheeli, H. and **Bulut, R.** 2019. Interpretation of Desiccation Soil Cracking in the Framework of Unsaturated Soil Mechanics. *Geotechnical Engineering Journal of the SEAGS & AGSSEA*. 50(1): 74-80. ISSN 0046-5828.
3. Chen, L. and **Bulut, R.** 2017. Development and Application of a New Tensile Stress Model for Expansive Soils. *Geotechnical and Geological Engineering Journal*. 35(3):1067-1077.
4. Yue, E. and **Bulut, R.** 2014. Equilibrium Matric Suctions in Subgrade Soils in Oklahoma Based on Thornthwaite Moisture Index (TMI). Advances in Transportation Geotechnics and Materials for Sustainable Infrastructure, Geo-Shanghai International Conference. Shanghai, China. *ASCE Geotechnical Special Publication*. No. 250. pp. 17-24.
5. Yue, E., Chen, L., Bulut, R., Cheng, Q. 2013. Climatic Parameter TMI in Subgrade Soils. Proceedings of International Symposium of Climatic Effects on Pavement and Geotechnical Infrastructure (ISCEPGI), Fairbanks, Alaska, August 4-7, 2013, pp. 109-116.

(D) SYNERGISTIC ACTIVITIES

- Book Editor-in-Chief: By collaborating with colleagues from different parts of the world, I edited three major books produced from refereed conference proceedings, and they are: 1) Bulut, R., Yu, X., and Yang, S.-R. (2016). Advances in Numerical and Experimental Analysis of Transportation Geomaterials and Geosystems for Sustainable Infrastructure. ASCE Geotechnical Special Publication No. 257, ISBN (PDF): 978-0-7844-8000-7; 2) Bulut, R. and Hsu, S.-C. 2014. Advances in Transportation Geotechnics and Materials for Sustainable Infrastructure. ASCE Geotechnical Special Publication No. 250, ISBN: 978-0-7844-1359-3; and 3) Bulut, R., Tsukamoto, Y., Deng, A., Katsumi, T., and Kokusho, T. 2011. Advances in Unsaturated Soil, Geo-Hazard, and Geo-Environmental Engineering. ASCE Geotechnical Special Publication No. 217, ISBN: 978-0-7844-7628-4.
- Relevant Sponsored Research Projects: As a Principal Investigator, I lead several research projects involving the effects of climate for the Oklahoma Department of Transportation, Oklahoma Transportation Center, Transportation Consortium of South-Central States (Tran-SET), Southern Plains Transportation Center, and Texas Transportation Institute, and those projects are: i) Evaluation of the Enhanced Integrated Climatic Model for Modulus-Based Construction Specifications for Oklahoma Pavements; ii) Drying Shrinkage Problems in High-Plastic Clay Soils in Oklahoma; iii) The Effects of Soil Suction on Shallow Slope Stability; iv) Performance of Moisture Barriers to Enhance Pavement Performance over Swelling Soils; v) Developing Implementable Climatic Input Data and Moisture Boundary Conditions for Pavement Analysis and Design; and vi) Evaluation of Ec3000 as Stabilizer to Reduce Risk on Design-Build Pavement Projects in Texas Constructed over Expansive Soils.
- Short Course: Recently, I have taught a short course at Chang'an University in China on the application of unsaturated soil mechanics in engineering practice.
- Development of New Courses at OSU: I developed two new courses at Oklahoma State University. i) Unsaturated Soil Mechanics. This course is designed to teach the fundamentals of unsaturated soil mechanics principles as applied to behavior of expansive soils in response to climatic and other moisture boundary effects; ii) Soil Stabilization. Chemical and mechanical improvement of expansive soils, and quantification of their results on volume changes of expansive soils using the principles of unsaturated soil mechanics.
- International Conference Organizations and Scientific Committee Memberships: I have been involved with the organizations of number of international conferences as a Technical Organizing Committee Member; Advisory Committee Member; Conference Session Chair; Conference Session Co-Chair; Moderator; and Reporter. I have been on several technical committees of TRB and ASCE such as Engineering Behavior of Unsaturated Soils (AFP60); Chemical and Mechanical Stabilization (AFS90); ASCE Unsaturated Soils Committee; ASCE Geo-Institute Pavement Committee.