

Assoc. Prof. Dr. Hakkı Oral Özhan

Yeditepe University
Faculty of Engineering
Civil Engineering Department

PERSONAL INFORMATION

Birth: İstanbul, Turkey, 30.04.1978

Marital Status: Married, 2 children

Citizenship: Turkish

Address: Yeditepe Üniversitesi, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü,
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TÜRKİYE

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EDUCATION

Ph.D., Civil Engineering, Boğazici University, İstanbul, Turkey, 2011

M.Sc., Civil Engineering, Boğazici University, İstanbul, Turkey, 2004

- Brandenburg Technical University, Cottbus, Germany, 2002-2003 (to perform in-situ tests for the M.Sc. thesis study)

B.Sc., Civil Engineering, Istanbul Technical University, İstanbul, Turkey, 2000

ACADEMIC EXPERIENCE

Associate Professor: 2019- (Yeditepe University-Istanbul, Civil Engineering Department)

Assistant Professor: September 2012-August 2019 (Altınbaş University-Istanbul, Civil Engineering Department)

Research and Teaching Assistant: September 2005- June 2011 (Boğaziçi University-Istanbul, Civil Engineering Department)

Researcher: April 2002-February 2003 (Brandenburg Technical University-Cottbus, Germany, Civil Engineering Department)

RESEARCH INTERESTS

Geosynthetics
Geosynthetic Clay Liners
Environmental Geotechnics
Polymer-Treated Soils
Biopolymers in Geotechnical Engineering
Soil Improvement Techniques

PUBLICATIONS

Peer-Reviewed International Journal Papers (SCI, SCI-Expanded)

1. **Özhan, H.O.** (2021). Determination of Mechanical and Hydraulic Properties of Polyacrylamide-Added Bentonite-Sand Mixtures, *Bulletin of Engineering Geology and the Environment*, 80(3), 2557-2571. DOI: /10.1007/s10064-020-02062-9
2. **Özhan, H.O.** (2018). Effects of Temperature Increase in 0.5 M MgCl₂ Solution on Hydraulic Capability of Anionic Polymer-Treated Geosynthetic Clay Liners Used as Barriers, *Journal of Environmental Engineering, ASCE*, 144(10). DOI: 10.1061/(ASCE)EE.1943-7870.0001451
3. **Özhan, H.O.** (2018). Hydraulic Capability of Polymer-Treated GCLs in Saline Solutions at Elevated Temperatures, *Applied Clay Science*, 161, 364-373. DOI: 10.1016/j.clay.2018.05.007
4. **Özhan, H.O.**, Güler, E. (2018). Design of a Geomembrane-Laminated Geosynthetic Clay Liner on the Slopes of a Mine Tailings Dam in Emet, Turkey, *Mine Water and the Environment*, 37(3), 541-551. DOI: 10.1007/s10230-018-0538-9
5. Güler, E., **Özhan, H.O.** and Karaoglu, S. (2018). Hydraulic performance of anionic polymer-treated bentonite-granular soil mixtures, *Applied Clay Science*, 157, 139-147. DOI: 10.1016/j.clay.2018.02.047
6. **Özhan, H.O.**, Güler, E. (2017). Critical tendon bond length for prestressed ground anchors in pullout performance tests conducted in sand, *International Journal of Civil Engineering*, 16(10), 1329-1340. DOI: 10.1007/s40999-017-0261-0

7. **Özhan, H.O.**, Güler, E. (2016). Factors Affecting Failure by Internal Erosion of Geosynthetic Clay Liners Used in Fresh Water Reservoirs, *Environmental & Engineering Geoscience*, May 2016, 22(2), 157-169. DOI: 10.2113/gseegeosci.22.2.157
8. **Özhan, H.O.**, Güler, E. (2013). Use of Perforated Base Pedestal to Simulate Gravel Subbase in Evaluating the Internal Erosion of Geosynthetic Clay Liners, *Geotechnical Testing Journal*, ASTM, 36(3), 418-428. DOI: 10.1520/GTJ20120133

Other Peer-Reviewed International Journal Papers (Scopus, ESCI, etc.)

1. **Özhan, H.O.** (2017). Problems and solutions for GCLs used in waste containment facilities: temperature concerns and polymer treatment related to GCLs used in waste containment areas, *Innovative Infrastructure Solutions*, 2(43). DOI: 10.1007/s41062-017-0095-2
2. Erkal, A, **Özhan, H.O.** (2014). Value and Vulnerability Assessment of a Historic Tomb for Conservation, *The Scientific World Journal*, Volume 2014, Article ID 357679, 1-10. DOI: 10.1155/2014/357679

Peer-Reviewed National Journal Papers

1. **Özhan, H.O.** (2018). Katyonik Polimer Katkılı Geosentetik Kil Örtülerin Farklı Tuz Çözeltileri ile Etkileşimi, *Artvin Çoruh Üniversitesi Doğal Afetler ve Çevre Dergisi (ULAKBİM)*, 4(2), 171-181. DOI: 10.21324/dacd.412180

International Conference Papers with Printed Proceedings

1. **Özhan, H.O.** (2019). "*Measuring Shear Strength Parameters of Polymer-Added Bentonite-Sand Mixtures in Laboratory Experiments*", 7th International Symposium on Deformation Characteristics of Geomaterials (organized by ISSMGE), Glasgow, Scotland, 26-28 June 2019, E3S Web of Conferences 92, 11014 (2019), DOI: 10.1051/e3sconf/20199211014
2. **Özhan, H.O.** (2017). "*Effects of Adding Anionic Polymer to GCLs Treated with Chemical Solutions*", 9th International Conference on Soil Mechanics and Geotechnical Engineering (organized by ISSMGE), Seoul, South Korea, 17-22 September 2017, pp. 955-958
3. **Özhan, H.O.** (2017). "*GCL Usage in Waste Containment Facilities*"- *Keynote Speaker* in Workshop 4-Geosynthetics Engineering: Barrier, Sustainable Civil Infrastructures-GeoMeast 2017 International Conference, Sharm-El Sheikh, Egypt, 15-19 July 2017

4. **Özhan, H.O.**, Eseller Bayat, E. and Zanjani, E.Y. (2016). “*Dynamic Analysis of Buried Pipelines with Geogrid Reinforcement*”, 6th European Geosynthetics Congress (organized by IGS), Ljubljana, Slovenia, 25-28 September 2016, pp. 1390-1400
5. **Özhan, H.O.** (2016). “*Hydraulic Capability of Polymer-Treated GCLs*”, 4th International Conference on New Developments in Soil Mechanics and Geotechnical Engineering (organized by ISSMGE), Near East University, Nicosia-North Cyprus, 2-4 June 2016, pp. 559-566
6. **Özhan, H.O.** (2015). “*Geotextile Deformation Analysis of Geosynthetic Clay Liners with FEM*”, VII International Conference on Textile Composites and Inflatable Structures-Structural Membranes 2015, Barcelona-Spain, 19-21 October 2015, pp. 524-533
7. Güler, E., **Özhan, H.O.** and Cengiz, C. (2014). “*Lamination Effect on Flow Rates through Composite Liners*”, 10th International Conference on Geosynthetics (organized by IGS), Berlin-Germany, 21-25 September 2014, pp. 1694-1700
8. Erkal A., **Özhan, H.O.** (2013). “*Engineering Risk Assessment and Cultural Analyses of Historic Nisanci Hamza Pasa Tomb in Istanbul*”, 2nd Specialty International Conference on Monumental Cemeteries Knowledge, Conservation and Restyling, Ostuni-Italy, 10-12 May 2013, pp. 1-8
9. **Özhan, H.O.**, Güler, E. (2012). “*Internal Erosion of Three Different Geosynthetic Clay Liners Tested Over a Perforated Base Pedestal*”, 22nd European Young Geotechnical Engineers Conference (EYGEC) (organized by ISSMGE), Goteborg, Sweden, 26-29 August 2012, pp. 9-14
10. Güler E., Avcı, C. and **Özhan, H.O.** (2010). “*Advantages of using Geomembrane Laminated Geosynthetic Clay Liners for a Tailing Dam in Emet, Turkey*”, 3rd International Symposium on Geosynthetic Clay Liners (organized by IGS), Wurzburg, Germany, 15-16 September 2010, pp. 279-287

National Conference Papers with Printed Proceedings

1. **Özhan, H.O.** (2019). “*Geosentetik Kil Örtülerde Kullanılan Poliakrilamid Katkılı Bentonitin Kayma Direnci Tayini*”, Sekizinci Ulusal Geosentetikler Konferansı, Boğaziçi Üniversitesi, İstanbul, 16-17 Mayıs 2019, pp. 319-327
2. **Özhan, H.O.** (2017). “*Farklı Sıcaklıklardaki Kimyasal Çözeltide Kullanılan Geosentetik Kil Kaplamanın Hidrolik Performansı*”, Yedinci Ulusal Geosentetikler Konferansı, Boğaziçi Üniversitesi, İstanbul, 11-12 Mayıs 2017, pp. 97-107

3. **Özhan, H.O.** (2016). “*Katyonik Polimer Katkılı Geosentetik Kil Örtülerin Hidrolik Özellikleri*”, Zemin Mekaniği ve Geoteknik Mühendisliği Onaltıncı Ulusal Kongresi, Atatürk Üniversitesi, Erzurum, 13-14 Ekim 2016, pp. 139-148
4. **Özhan, H.O.**, Güler, E. (2014). “*İçsel Erozyona Uğramış Geosentetik Kil Örtülerin Kalınlık ve Su Muhtevası Karşılaştırması*”, Altıncı Ulusal Geosentetikler Konferansı, Boğaziçi Üniversitesi, İstanbul, 29-30 Mayıs 2014, pp. 27-36
5. Avcı, C., Güler, E. and **Özhan, H.O.** (2008). “*Maden Atık Barajlarında Geotekstil Kil Tabakası Kullanımlarının Değerlendirilmesi*”, Üçüncü Ulusal Geosentetikler Konferansı, Boğaziçi Üniversitesi, İstanbul, 13-14 Kasım 2008, pp. 71-80

PROJECTS

Project Coordinator-TUBITAK 3501 (*The Scientific and Technological Research Council of Turkey*) under 3501-Career Development Program, Project #: 114M282, “*Effects of Waste Water Temperature on the Hydraulic Performance of Polymer Treated and Untreated Geosynthetic Clay Liners*” with 231.262 TL total budget (**2014 October-2017 October**)

Brief Info: Temperature of a leachate increases significantly due to decomposition of the organic substances that are collected in a waste containment area. In order to simulate the interaction between a leachate and a barrier material, triaxial permeability and free swell tests were performed on a geosynthetic clay liner (GCL) that was permeated with 0.5 M and 0.1 M MgCl₂ solutions. Furthermore, these tests were repeated on the same GCL that was permeated with deionized water to evaluate the same conditions in freshwater reservoirs. Temperature of the permeation fluid was set to 20°C, 40°C and 60°C and 1%, 2% anionic and cationic polymers by mass were added to the GCL respectively. Furthermore, a theoretical analysis was performed by considering the correlation between viscosity and temperature of the permeation fluid and their effects on the hydraulic conductivity of the GCL.

Project Coordinator- BAP (*Altınbaş University Scientific Research Project*) "Finite Element Method Analysis of GCLs placed over various Soils in Waste Containment Areas", with 10000 TL total budget (January 2013-January 2014)

Researcher- BAP (*Boğaziçi University Scientific Research Project*) "Effects of Selected Factors on Internal Erosion of Geosynthetic Clay Liners", Project #: 07HA401 (2007-2010)

Researcher (*Research Project of Boğaziçi University and Eti Maden İşletmeleri*) “Stability Analyses for Selecting the Barrier Material in Mine Tailings Dam of Boric Acid Manufacturing Plant in Emet (2006)

THESES SUPERVISED

Ms Theses

Zanjani, Ehsan Yahyavi, "Numerical Modelling on Behavior of Flexible Underground Pipelines under Seismic Loads", Istanbul Technical University (İTÜ), June 2016 (Co-Supervisor)

PROFESSIONAL AFFILIATIONS

International Geosynthetics Society (IGS)

Geosentetikler Derneği (Turkish Chapter of International Geosynthetics Society)

Zemin Mekaniği ve Geoteknik Mühendisliği Derneği-ZMGM (Turkish Chamber of International Society for Soil Mechanics and Geotechnical Engineering-ISSMGE)

Geosynthetics Technical Committee for Barriers (ISO/TC 221)

AWARDS and HONORS

'Selected Representative Conference Paper for Turkey' - 22nd European Young Geotechnical Engineers Conference, Goteborg, Sweden, 26-29 August 2012, organized by International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

PEER REVIEWER (SCI and SCI-Expanded Journals)

Geotextiles and Geomembranes

Geosynthetics International

Applied Clay Science

Catena

Earthquake Engineering and Engineering Vibration

Teknik Dergi

ACADEMIC ADMINISTRATIVE DUTIES

Altınbaş University:

Vice Dean of Faculty of Engineering and Architecture (September 2013-May 2015)

Internship Coordinator of Civil Engineering Department (December 2016-June 2019)

COURSES OFFERED

Yeditepe University (Graduate):

CE 580 Special Topics in Civil Engineering

CE 554 Designing with Geosynthetics

Yeditepe University (Undergraduate):

CE 363 Earth Sciences

CE 441 Foundation Engineering

CE 341 Soil Mechanics

CE 492 Engineering Project

Altınbaş University (Undergraduate):

Foundation Engineering

Soil Mechanics

Earth Sciences for Civil Engineering

Geosynthetics in Civil Engineering

Introduction to Civil Engineering

Civil Engineering Materials

Physics 1

COMMITTEE MEMBERSHIP IN CONFERENCES

Organization and Scientific Committee, 6th European Geosynthetics Congress (organized by IGS), Ljubljana, Slovenia, 25-28 September 2016

Organization and Scientific Committee, Sekizinci Ulusal Geosentetikler Konferansı, Boğaziçi Üniversitesi, İstanbul, 16-17 Mayıs 2019

Organization and Scientific Committee, Yedinci Ulusal Geosentetikler Konferansı, Boğaziçi Üniversitesi, İstanbul, 11-12 Mayıs 2017

Organization and Scientific Committee, Altıncı Ulusal Geosentetikler Konferansı, Boğaziçi Üniversitesi, İstanbul, 29-30 Mayıs 2014