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Personal Information

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International Researcher IDs

ORCID: 0000-0001-7632-2303

Publons / Web Of Science ResearcherID: A-1986-2019

ScopusID: 55921922600

Yoksis Researcher ID: 27561

Education Information

Doctorate, North Carolina State University, Department Of Civil, Construction And Environmental Engineering, İnşaat Mühendisliği, United States Of America 2004 - 2009

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Geoteknik Mühendisliği (YI) (Tezli), Turkey 2001 - 2004

Undergraduate, Istanbul Technical University, İnşaat Fakültesi, İnşaat Mühendisliği Bölümü, Turkey 1997 - 2001

Foreign Languages

English

Dissertations

Doctorate, Dynamic Response of Saturated Porous Media: Wave Induced Response and Instability of Seabed, North Carolina State University, Department Of Civil, Construction And Environmental Engineering, 2009

Postgraduate, Siltli ve Killi Zeminlerin Tekrarlı Yükler Altındaki Davranışı, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Geoteknik Mühendisliği (YI) (Tezli), 2004

Research Areas

Computer Sciences, Simulation and Modelling, Artificial Intelligence, Computer Learning and Pattern Recognition, Computer Learning, Civil Engineering, Geotechnical, Soil Mechanics, Soil Dynamics, Hydraulic, Design of Coastal Structures, Structure, Earthquake Engineering, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Afet Yönetimi Enstitüsü, Deprem Mühendisliği , 2014 - Continues

Lecturer PhD, Istanbul Technical University, Afet Yönetimi Enstitüsü, Deprem Mühendisliği , 2012 - 2014

Lecturer PhD, North Carolina State University, Civil, Construction And Environmental Engineering, Civil Engineering, 2011 - 2012

Lecturer PhD, University of Missouri-Rolla, Civil, Architectural And Environmental Engineering, Civil Engineering, 2010 - 2011

Research Assistant, North Carolina State University, Civil, Construction And Environmental Engineering, Civil Engineering, 2009 - 2010

Research Assistant, North Carolina State University, Civil, Construction And Environmental Engineering, Civil Engineering, 2004 - 2009

Courses

Zemin Dinamiği, Postgraduate, 2020 - 2021

Jury Memberships

Academic Staff Examination, İngilizce Yeterlik Sınavı, İTÜ, January, 2019

Post Graduate, NUMERICAL SIMULATION OF INFILTRATION AND EVAPORATION FOR UNSATURATED INFINITE SOIL SLOPES, ODTÜ, February, 2017

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A combined theoretical and numerical modeling study of cyclic nonlinear response of sandy seabed**
Ulker M. B. C.
OCEAN ENGINEERING, vol.219, 2021 (SCI-Expanded)
- II. **Comparative study of numerical formulations developed for constitutive modeling of static and dynamic behavior of saturated sands: Proposal of a new hardening law**
Ulker M. B. C.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.3, pp.1353-1368, 2020 (SCI-Expanded)
- III. **Dynamic response and liquefaction analysis of seabed-rubble mound breakwater system under waves**
Ulker M. B. C., Tatlioglu E., Lav M. A.
APPLIED OCEAN RESEARCH, vol.78, pp.75-87, 2018 (SCI-Expanded)
- IV. **Semianalytical Solution to the Wave-Induced Dynamic Response of Saturated Layered Porous Media**
Ulker M. B. C.
JOURNAL OF WATERWAY PORT COASTAL AND OCEAN ENGINEERING, vol.141, no.1, 2015 (SCI-Expanded)
- V. **Wave-induced dynamic response of saturated multi-layer porous media: Analytical solutions and validity regions of various formulations in non-dimensional parametric space**
Ulker M. B. C.
SOIL DYNAMICS AND EARTHQUAKE ENGINEERING, vol.66, pp.352-367, 2014 (SCI-Expanded)
- VI. **Preface of the "Symposium on analysis of wave-induced response and instability of seabed"**
Ulker M. B. C.
AIP Conference Proceedings, vol.1479, no.1, pp.1471, 2012 (SCI-Expanded)
- VII. **Pore Pressure, Stress Distributions, and Instantaneous Liquefaction of Two-Layer Soil under Waves**
Ulker M. B. C.
JOURNAL OF WATERWAY PORT COASTAL AND OCEAN ENGINEERING-ASCE, vol.138, no.6, pp.435-450, 2012 (SCI-Expanded)
- VIII. **Breaking wave-induced response and instability of seabed around caisson breakwater**

Ulker M. B. C., Rahman M. S., Guddati M. N.

INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS, vol.36, no.3, pp.362-390, 2012 (SCI-Expanded)

IX. Wave-induced dynamic response and instability of seabed around caisson breakwater

Ulker M. B. C., Rahman M. S., Guddati M. N.

OCEAN ENGINEERING, vol.37, no.17-18, pp.1522-1545, 2010 (SCI-Expanded)

X. Response of saturated and nearly saturated porous media: Different formulations and their applicability

Ülker M. B. C., Rahman M. S.

INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS, vol.33, no.5, pp.633-664, 2009 (SCI-Expanded)

XI. Wave-induced response of seabed: Various formulations and their applicability

Ülker M. B. C., Rahman M. S., Jeng D. -.

APPLIED OCEAN RESEARCH, vol.31, no.1, pp.12-24, 2009 (SCI-Expanded)

XII. Traffic barriers under vehicular impact: From computer simulation to design guidelines

Ülker M. B. C., Rahman M. S., Zhen R., Mirmiran A.

COMPUTER-AIDED CIVIL AND INFRASTRUCTURE ENGINEERING, vol.23, no.6, pp.465-480, 2008 (SCI-Expanded)

XIII. Effect of cyclic loading on monotonic shear strength of fine-grained soils

Erken A., ULKER B. M. C.

ENGINEERING GEOLOGY, vol.89, pp.243-257, 2007 (SCI-Expanded)

Articles Published in Other Journals

I. Constitutive Modeling of Monotonic Behavior of Clays: Mathematical Formulation, Numerical Implementation and Experimental Verification

Ülker M. B. C.

JOURNAL OF POLYTECHNIC-POLITEKNİK DERGİSİ, vol.23, no.2, pp.361-369, 2020 (ESCI)

II. Editorial: Current trends in computational geomechanics and geotechnical engineering

ÜLKER M. B. C.

Current Trends in Civil and Structural Engineering, 2018 (Peer-Reviewed Journal)

III. Modeling of dynamic response of poroelastic soil layers under wave loading

Ülker M. B. C.

FRONTIERS OF STRUCTURAL AND CIVIL ENGINEERING, vol.8, no.1, pp.1-18, 2014 (ESCI)

IV. Depremeler sırasında zeminlerin sıvılaşması ve taşıma gücü kayıpları

Erken A., Özay R., Kaya Z., Ülker M. B. C., Elibol B.

Türkiye Mühendislik Haberleri Dergisi-TMH, no.431, pp.20-26, 2004 (Peer-Reviewed Journal)

Books & Book Chapters

I. Introductory Chapter: Geotechnical Engineering in a Broad Perspective - New Advances in Emerging Fields

Ülker M. B. C. (Editor)

in: Geotechnical Engineering: Advances in Soil Mechanics and Foundation Engineering, Mehmet Barış Can

Ülker, Sayed Hamed, Editor, IntechOpen, London, pp.1-11, 2020

II. Modeling and Computing in Geotechnical Engineering: An Introduction

RAHMAN S., ÜLKER M. B. C.

CRC Press, 2018

Refereed Congress / Symposium Publications in Proceedings

- I. **A new hardening interpolation rule for the dynamic behavior of soils using Generalized Plasticity framework**
ÜLKER M. B. C.
Proceedings of the 19th International Conference on Soil Mechanics and Geotechnical Engineering, 17 - 22 September 2017
- II. **Dynamic Response of Improved Seabed Soil - Caisson Foundation Under Earthquake Loading**
TATLIOĞLU E., ÜLKER M. B. C., LAV M. A.
25th Conference on Computational Mechanics, 11 April - 13 July 2017
- III. **Genelleştirilmiş plastisite teorisi ile killerin statik davranışlarının modellenmesi**
Ülker M. B. C.
16. Ulusal Zemin Mekaniği ve Temel Mühendisliği Kongresi, Erzurum, Turkey, 13 - 14 October 2016, pp.1201-1206
- IV. **Instantaneous Liquefaction of Seabed around Rubble Mound Breakwater under Waves**
Ülker M. B. C., Massah Fart M.
Int. Ocean and Polar Eng. Conf., ISOPE, Rodos, Greece, 26 June - 02 July 2016, pp.1-7
- V. **Dynamics of unsaturated soils: Governing equations and constitutive relations**
Ülker M. B. C.
11th Int. Cong. Adv. Civil Engg, İstanbul, Turkey, 21 - 25 October 2014, pp.1-6
- VI. **Recent developments on wave-induced liquefaction of marine seabed**
Kırca V. Ş. Ö., Ülker M. B. C.
11th Int. Cong. Adv. Civil Engg, İstanbul, Turkey, 21 - 25 October 2014, pp.4-10
- VII. **İKİ YÜZEYLİ TEKRARLI PLASTİSİTE MODELİ İLE DOYGUN GRANÜLER ZEMİNLERİN DİNAMİK DAVRANIŞLARININ MODELLENMESİ**
ÜLKER M. B. C.
Zemin Mekaniği ve Temel Mühendisliği Onbeşinci Ulusal Kongresi, Turkey, 16 - 17 October 2014
- VIII. **İki yüzeyli tekrarlı plastisite modeli ile doygun granüler zeminlerin dinamik davranışlarının modellenmesi**
Ülker M. B. C.
15. Ulusal Zemin Mekaniği ve Temel Mühendisliği Kongresi, Ankara, Turkey, 3 - 06 October 2014, pp.1-7
- IX. **Dynamic response of seabed-rubble mound breakwater system under seismic waves**
Ülker M. B. C.
European Conference on Earthquake Engineering and Seismology (2ECEES), İstanbul, Turkey, 24 - 29 August 2014, pp.1-5
- X. **A semi-analytical solution to the dynamic response of saturated multi-layer porous media under progressive waves**
Ülker M. B. C.
5th Biot Conference on Poromechanics, Viyana, Austria, 10 - 12 July 2013, pp.7-11
- XI. **İki tabakalı deniz tabanı zemininin ilerleyen dalga yükü altındaki dinamik davranışı**
Ülker M. B. C.
14. Ulusal Zemin Mekaniği ve Temel Mühendisliği Kongresi, Isparta, Turkey, 3 - 06 October 2012, pp.1-5
- XII. **Finite element formulations of the dynamics of saturated porous media**
Ülker M. B. C., RAHMAN S.
16th Nat. Cong. Theo. Appl. Mech., Pa, United States Of America, 27 June - 02 July 2010, pp.230-233
- XIII. **Standing wave-induced dynamic response and instability of seabed around a breakwater**
Ülker M. B. C., RAHMAN S., GUDDATI M.
29th Int. Conf. Ocean, Offshore Arctic Engg., Shanghai, China, 6 - 11 June 2010, vol.1, pp.737-746
- XIV. **STANDING WAVE-INDUCED DYNAMIC RESPONSE AND INSTABILITY OF SEABED UNDER A CAISSON BREAKWATER**
Ulker M. B. C., Rahman M. S., Guddati M. N.
29th ASME International Conference on Ocean, Offshore and Arctic Engineering, Shanghai, China, 6 - 11 June 2010,

pp.737-746

XV. Formulations for the response of saturated porous media: Validity for geomechanics problems

Ülker M. B. C., Rahman M.

12th International Conference on Computer Methods and Advances in Geomechanics 2008, Goa, India, 1 - 06
October 2008, vol.2, pp.1180-1187

XVI. The reason of bearing capacity failure at fine grained soils

Erken A., Ülker M. B. C., KAYA Z., Elibol B.

8th US National Conference on Earthquake Engineering 2006, San Francisco, CA, United States Of America, 18 - 22
April 2006, vol.14, pp.8346-8359

Supported Projects

Ülker M. B. C., TUBITAK Project, Development of a New Generation Intelligent Constitutive Model for Modeling the Dynamic Behavior of Liquefiable Soils Under Earthquake Excitations, 2021 - 2024

Ülker M. B. C., TUBITAK Project, Constitutive Modeling of Static Behaviors of Unsaturated Soils and Its Use in Engineering Applications, 2017 - 2022

Ülker M. B. C., Eyüpgiller M. M., Project Supported by Higher Education Institutions, Doygun Olmayan Zeminlerin Statik Davranışlarının Sayısal Modellenmesi, 2017 - 2021

Ülker M. B. C., EU Framework Program Project, AB Marie Curie Career Integration Grant 11 11 2013 tarih PCIG12 GA 2012 333831 sayılı Dynamic Response and Instability of Seabed Coastal Structure Systems under Waves DRISCS, 2013 - 2018

Ülker M. B. C., Project Supported by Higher Education Institutions, Suya Doygun Granürler Deniz Tabanı Zemininin Deprem ve Dalga Yükleri Altındaki Dinamik Davranışının Sayısal Modellenmesi, 2013 - 2016

Scientific Refereeing

Applied Ocean Research, SCI Journal, July 2017

TUBITAK Project, June 2017

Journal of Engineering Mechanics, SCI Journal, January 2017

TUBITAK Project, August 2016

Applied Ocean Research, SCI Journal, July 2016

Coastal Engineering, SCI Journal, June 2016

Engineering Geology, SCI Journal, February 2016

Türk İdare Dergisi, National Scientific Refreed Journal, November 2015

Marine Georesources and Geotechnology, SCI Journal, August 2015

Ocean Engineering, SCI Journal, June 2015

Applied Ocean Research, SCI Journal, April 2015

April 2015

ASCE Waterway Port Coastal Ocean Engineering, SCI Journal, March 2015

Soil Dynamics and Earthquake Engineering, SCI Journal, March 2015

Ships and Offshore Structures, SCI Journal, November 2014

The Open Civil Engineering Journal, Other Indexed Journal, January 2014

ASCE Waterway Port Coastal Ocean Engineering, SCI Journal, May 2013

Geomechanics and Engineering, SCI Journal, April 2013

Ocean Engineering, SCI Journal, June 2011

ASCE Journal of Geotechnical and Geoenvironmental Engineering, SCI Journal, September 2010

ASCE Journal of Materials in Civil Engineering, SCI Journal, June 2010

Scientific Consultations

TEKTAŞ Mühendislik, Scientific Consultancy, Istanbul Technical University, Afet Yönetimi Enstitüsü, Turkey, 2020 - 2020
TML İnşaat A.Ş., Scientific Consultancy, Istanbul Technical University, Afet Yönetimi Enstitüsü, Deprem Mühendisliği ,
Turkey, 2016 - 2017

Scientific Research / Working Group Memberships

Kıyı ve Deniz Hidrodinamiği Çalışma Grubu, İSTANBUL TEKNİK ÜNİVERSİTESİ, Turkey,
<https://calismagruplari.itu.edu.tr/>, 2015 - Continues

Metrics

Publication: 62
Citation (WoS): 331
Citation (Scopus): 386
H-Index (WoS): 8
H-Index (Scopus): 8

Congress and Symposium Activities

"Zeminlerin Statik ve Dinamik Davranışlarının Genelleştirilmiş Plastisite Teorisi ile Modellenmesi": 70. İTÜ Mustafa İnan Mekanik Semineri, Attendee, İstanbul, Turkey, 2017
"Wave-Induced Dynamic Response of Seabed": Orta Doğu Teknik Üniversitesi İnşaat Mühendisliği Bölümü Sunumu, Attendee, Ankara, Turkey, 2012
• "Suya Tam ve Kısmen Doygun Poroz Ortamların Dinamik Davranışlarının Modellenmesi": İTÜ İnşaat Fakültesi Mustafa İnan Mekanik Semineri, Attendee, İstanbul, Turkey, 2012
Research Portfolio Presentation at University of Toledo Department of Civil and Environmental Engineering, Attendee, Ohio, United States Of America, 2011
29th Int. Conf. Ocean, Offshore Arctic Engg. OMAE, Attendee, Shanghai, China, 2010
Dynamics of Saturated Porous Media: Wave-Induced Response and Instability of Seabed", Special Invitation, Hohai University, Dept. of Water Resources and Dam Engineering, Attendee, Nanjing, China, 2010
"Dynamic Response of Porous Media under Waves", Yeditepe Üniversitesi İnşaat Mühendisliği Bölümü, Attendee, İstanbul, Turkey, 2010
"Wave-Induced Dynamic Response of Seabed: Regions of Applicability of Formulations", 1st American Academy of Mech. Conf., Attendee, Louisiana, United States Of America, 2008

Invited Talks

Numerical Methods in Geomechanics, Conference, VIII Int. Conf. Comp. Mthds for Coupled Problems in Sci. & Eng.- COUPLED PROBLEMS, Spain, June 2019

Scholarships

Ders Asistanlığı, University, 2006 - 2009
Araştırma Asistanlığı, University, 2004 - 2005

Coaching Duties

Amateur Club, İTÜ Aikido , 2013 - Continues

Non Academic Experience

Ülker Mühendislik ve Müşavirlik Bürosu