

## Assoc. Prof. NABI KARTAL TOKER

### Personal Information

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### International Researcher IDs

ScholarID: fdpOV\_IAAAAJ

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Publons / Web Of Science ResearcherID: ABB-8859-2020

ScopusID: 6602651695

Yoksis Researcher ID: 163704

### Education Information

Doctorate, Massachusetts Institute of Technology, Civil and Environmental Engineering, United States Of America 2002 - 2007

Postgraduate, Massachusetts Institute of Technology, Civil and Environmental Engineering, United States Of America 1999 - 2002

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey 1995 - 1999

### Foreign Languages

English, C2 Mastery

### Dissertations

Doctorate, Modeling the Relation between Suction, Effective Stress and Shear Strength in Partially Saturated Granular Media, Massachusetts Institute Of Technology, İnşaat Ve Çevre Mühendisliği Bölümü, 2007

Postgraduate, Improvements and Reliability of MIT Tensiometers and Studies on Soil Moisture Characteristic Curves, Massachusetts Institute Of Technology, İnşaat Ve Çevre Mühendisliği Bölümü, 2002

### Research Areas

Civil Engineering, Geotechnical, Foundation Engineering, Soil Mechanics, Deep Excavation, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2021 - Continues

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2018 - 2021

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2014 -

2018

Lecturer PhD, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2008 - 2014

Research Assistant, Massachusetts Institute of Technology, Mühendislik, İnşaat Ve Çevre Mühendisliği, 2004 - 2006

Lecturer, Massachusetts Institute of Technology, Mühendislik, İnşaat Ve Çevre Mühendisliği, 2000 - 2003

## Academic and Administrative Experience

Deputy Head of Department, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2019 - 2020

## Advising Theses

TOKER N. K., Application and comparison of multistage triaxial compression test procedures on reconstituted ankara clay, Postgraduate, A.VAKILINEZHAD(Student), 2022

Pekcan O., Toker N. K., Prediction of Water Retention Curves Using Neural Networks, Postgraduate, M.TÜRKMEN(Student), 2020

HUVAJ SARIHAN N., TOKER N. K., Numerical simulation of infiltration and evaporation for unsaturated infinite soil slopes, Postgraduate, M.BİRHAN(Student), 2017

TOKER N. K., Hydro-mechanical behavior of unsaturated specimens isotropically reconstituted from slurry and compacted specimens, Doctorate, R.AHMADİ(Student), 2016

TOKER N. K., Development of computer-controlled triaxial test setup and study on multistage triaxial test on sand, Postgraduate, M.ALYOUSIF(Student), 2015

HUVAJ SARIHAN N., TOKER N. K., Shallow landslides triggered by rainfall in nsaturated soils, Doctorate, M.Ahmadi(Student), 2014

TOKER N. K., Obtaining soil-water characteristic curves by numerical modeling of drainage in particulate media /, Postgraduate, A.SHOARIAN(Student), 2014

TOKER N. K., A preliminary study on construction of a high capacity tensiometer and its use in measurement of matric suction in unsaturated soils, Postgraduate, A.OKAN(Student), 2013

TOKER N. K., A Preliminary study on construction of a high capacity tensiometer and its use in measurement of matrik suction in unsaturated soils, Postgraduate, A.Okan(Student), 2013

TOKER N. K., Three dimensional finite element analysis of a novel bracing system in small deep excavations, Postgraduate, P.ÖZLÜ(Student), 2012

TOKER N. K., Cataloging and statistical evaluation of common mistakes in geotechnical investigation reports for buildings on shallow foundations, Postgraduate, G.ÖZYURT(Student), 2012

TOKER N. K., Comparison of factor of safety obtained from limit equilibrium methods with strength reduction factors in finite element modeling, Postgraduate, V.ENGİN(Student), 2012

## Designed Lessons

Toker N. K., GEOTECHNICAL LABORATORY TECHNIQUES, Postgraduate, 2010 - 2011

Toker N. K., Unsaturated Soils, Postgraduate, 2007 - 2008

## Taught Courses And Trainings

Toker N. K., Site investigation and in-situ testing, 2016 - 2016

Huvaj Sarihan N., Toker N. K., Akbaş S. O., Pekcan O., Çetin K. Ö., Çokça E., Bakır B. S., İnşaat Mühendisleri Odası Geoteknik Mühendisliği Meslekiçi Eğitim, 2011 - 2011

Huvaj Sarihan N., Toker N. K., Çokça E., Ergun M. U., Erol O., İller Bankası Genel Müd. "Zemin Mekaniği ve Temel

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Microstructure-based estimation of unsaturated shear strength from simple evaporation test**  
Kenanoğlu M., TOKER N. K.  
Bulletin of Engineering Geology and the Environment, vol.82, no.8, 2023 (SCI-Expanded)
- II. **Simulation of hysteresis in soil-water retention with a correlation between the invading pressure to the governing effective flow area**  
Sattari A. S., Siebelist M., TOKER N. K., Wuttke F.  
GRANULAR MATTER, vol.22, no.2, 2020 (SCI-Expanded)
- III. **Exponential Equation for Predicting Shear Strength Envelope of Unsaturated Soils**  
Ahmadi Naghadeh R., TOKER N. K.  
International Journal of Geomechanics, vol.19, no.7, 2019 (SCI-Expanded)
- IV. **A New Isotropic Specimen Preparation Method from Slurry for both Saturated and Unsaturated Triaxial Testing of a Low-Plasticity Silt**  
Ahmadi-Naghadeh R., TOKER N. K.  
GEOTECHNICAL TESTING JOURNAL, vol.42, no.4, pp.854-879, 2019 (SCI-Expanded)
- V. **Effect of Unsaturated Soil Properties on the Intensity-Duration Threshold for Rainfall Triggered Landslides**  
Kenanoğlu M. B., Ahmadi-Adli M., Toker N. K., Huvaj N.  
TEKNIK DERGI, vol.30, pp.9009-9027, 2019 (SCI-Expanded)
- VI. **Rainfall-triggered landslides in an unsaturated soil: a laboratory flume study**  
Ahmadi-Adli M., Huvaj N., Toker N. K.  
ENVIRONMENTAL EARTH SCIENCES, vol.76, 2017 (SCI-Expanded)
- VII. **Volume Change Measurement in Triaxial Tests by Monitoring Cell Fluid Volume Based on Viscoelastic Behavior of the Test Setup**  
Ahmadi-Naghadeh R., TOKER N. K.  
GEOTECHNICAL TESTING JOURNAL, vol.40, no.4, pp.683-697, 2017 (SCI-Expanded)
- VIII. **Obtaining soil-water characteristic curves by numerical modeling of drainage in particulate media**  
Sattari A. S., TOKER N. K.  
COMPUTERS AND GEOTECHNICS, vol.74, pp.196-210, 2016 (SCI-Expanded)
- IX. **Effective Stress and Shear Strength of Moist Uniform Spheres**  
TOKER N. K., Germaine J. T., Culligan P. J.  
VADOSE ZONE JOURNAL, vol.13, no.5, 2014 (SCI-Expanded)
- X. **Water content controlled instead of suction controlled strength tests**  
Ahmadi-Naghadeh R., TOKER N. K., Ahmadi-Adli M.  
Life Science Journal, vol.10, no.1, pp.2023-2030, 2013 (SCI-Expanded)
- XI. **A new technique for rapid measurement of continuous soil moisture characteristic curves**  
Toker N. K., Germaine J., Sjoblom K., Culligan P.  
Geotechnique, vol.54, no.3, pp.179-186, 2004 (SCI-Expanded)
- XII. **Comment on "Cavitation during desaturation of porous media under tension" by Dani Or and Markus Tuller**  
Toker N. K., Germaine J., Culligan P.  
WATER RESOURCES RESEARCH, vol.39, 2003 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Numerical Determination of Unsaturated Hydraulic Conductivity From Time-Series Outflow Data**

Kenanoğlu M., TOKER N. K.

Indian Geotechnical Journal, 2024 (ESCI)

**II. A Formulation for Scanning Soil-water Characteristic Curves**

Kenanoğlu M. B., Toker N. K.

JOURNAL OF POLYTECHNIC-POLITEKNİK DERGİSİ, vol.21, pp.901-906, 2018 (Peer-Reviewed Journal)

**III. Water content controlled instead of suction controlled tests**

Ahmadinaghadeh R., Toker N. K., Ahmadiadli M.

Life Science Journal-Acta Zhengzhou University Overseas Edition, vol.10, pp.2023-2030, 2013 (Peer-Reviewed Journal)

**IV. Geoteknik etüt raporlarındaki yaygın hataların belirlenmesi ve istatistiksel değerlendirilmesi**

Toker N. K., Özyurt G.

Türkiye Mühendislik Haberleri, no.476, pp.28-35, 2013 (Non Peer-Reviewed Journal)

## **Refereed Congress / Symposium Publications in Proceedings**

**I. A CONSTITUTIVE MODEL EXPLAINING THE COUPLED HYDROMECHANICAL BEHAVIOR OF UNSATURATED SOILS INCLUDING HYDRAULIC HYSTERESIS: UNSATURK 1.0**

Eyüpgiller M. M., Kenanoğlu M. B., Ülker M. B. C., Toker N. K.

Zemin Mekaniği ve Temel Mühendisliği 18. Ulusal Kongresi, Kayseri, Turkey, 29 - 30 September 2022, pp.1-13

**II. A Case Study: Dynamic Analyses of Barrette Foundations under a Pipe Rack in a High Seismicity Region**

Akbaş B., Kanun O., Unutmaz B., Gülerce Z., Toker N. K.

3rd European Conference on Earthquake Engineering and Seismology, Bucuresti, Romania, 4 September - 09 October 2022, pp.1-9

**III. A constitutive model for hyromechanically coupled behavior of unsaturated soils with hydraulic hysteresis**

Eyüpgiller M. M., Kenanoğlu M. B., Ülker M. B. C., Toker N. K.

3rd PanAmerican Conference on Unsaturated Soils, Rio De Janeiro, Brazil, 25 - 28 July 2021, pp.1-7

**IV. Characterization of transverse anisotropy in Poisson's ratio using three-point radial deformation measurements**

Toker N. K., Büyükyılmaz K. S.

7th International Symposium on Deformation Characteristics of Geomaterials, Glasgow, England, 26 - 28 June 2019

**V. Kum numuneler için çok aşamalı üç eksenli deney yöntemleri**

ALYOUSİF M., TOKER N. K.

Zemin Mekaniği ve Temel Mühendisliği 17. Ulusal Kongresi, İstanbul, Turkey, 26 - 28 September 2018, vol.2, pp.451-462

**VI. Changing and equilibrating water content of test specimens without suction control**

KENANOĞLU M. B., TOKER N. K.

7th International Conference on Unsaturated Soils, Hong Kong, Hong Kong, 3 - 05 August 2018, vol.2, pp.419-424

**VII. Empirical Prediction Models for the Seismic Response of Pile Foundations**

UNUTMAZ B., GÜLERCE Z., SANDIKKAYA M. A., TOKER N. K.

16th European Conference on Earthquake Engineering (16ECEE), 18 - 21 June 2018

**VIII. Rainfall threshold to trigger landslides in unsaturated soils: A laboratory model study**

Ahmadi-Adli M., Huvaj Sarihan N., Toker N. K.

19th International Conference on Soil Mechanics and Geotechnical Engineering (19th ICSMGE), Seoul, South Korea, 17 - 22 September 2017, pp.3485-3488

**IX. Elastic-plastic behavior of an unsaturated compacted non-plastic silt**

AHMADİ NAGHADEH R., TOKER N. K.

9th International Conference on Porous Media, Rotterdam, Netherlands, 8 - 11 May 2017

**X. Numerical simulation of rainfall-induced landslides considering hysteresis and scanning soil-water**

**characteristic curves**

KENANOĞLU M. B., TOKER N. K.

9th International Conference on Porous Media, 8 - 11 May 2017

- XI. **Suya doygun olmayan yamaçlarda yağmurla oluşan heyelanlar ve erken uyarı**  
Huvaj Sarihan N., Ahmadiadli M., Toker N. K.  
Ulusal Heyelan Sempozyumu, Ankara, Turkey, 27 - 29 April 2016
- XII. **Yağmurla Tetiklenen Heyelanların Önceden Tahmini: Bir Laboratuvar Model Çalışması**  
Ahmadi-Adli M., Huvaj Sarihan N., Toker N. K.  
6. Geoteknik Sempozyumu, Adana, Turkey, 26 - 27 November 2015, vol.1, pp.1-10
- XIII. **Sensitivity of rainfall threshold to unsaturated material properties**  
Huvaj Sarihan N., Kenanoğlu M. B., Ahmadiadli M., Toker N. K.  
4th Italian Workshop on Landslides, Naples, Italy, 23 - 25 November 2015
- XIV. **An analytical approach to link effective stress shear strength and moisture at the micro scale**  
TOKER N. K., GERMAİNE J. T., CULLİGAN P. J.  
SIAM Conference on Mathematical and Computational Issues in the Geosciences, San-Francisco, United States Of America, 29 June - 02 July 2015, pp.127-128
- XV. **Effects of the size of particles on rainfall-induced slope instability in granular soils**  
Ahmad-Adli M., Huvaj N., Kartal Toker N. K.  
2014 Congress on Geo-Characterization and Modeling for Sustainability, Geo-Congress 2014, Atlanta, GA, United States Of America, 23 - 26 February 2014, pp.4027-4036
- XVI. **Effects of the size of particles on rainfall induced slope instability in granular soils**  
Ahmadi-Adli M., Huvaj Sarihan N., Toker N. K.  
ASCE Geo-Congress 2014, Geotechnical Special Publication 234: Geo-Characterization And Modeling For Sustainability, Georgia, United States Of America, 23 - 26 February 2014, vol.1, pp.4027-4036
- XVII. **Prediction of seepage and slope stability in a flume test and an experimental field case**  
Ahmadi-Adli M., Toker N. K., Huvaj N.  
3rd Italian Workshop on Landslides (IWL) - Hydrological Response of Slopes through Physical Experiments, Field Monitoring and Mathematical Modeling, Naples, Italy, 23 - 24 October 2013, vol.9, pp.189-194
- XVIII. **Numerical comparison of retaining system behavior for a deep excavation case with and without ground improvement**  
MAGHSOUDLOO A., AHMADİNAGHADEH R., TOKER N. K.  
International Conference on Ground Improvement and Ground Control, Wollongong, Australia, 30 October - 02 November 2012
- XIX. **Water content variability of unsaturated soil specimens in conventional strength tests**  
AHMADİNAGHADEH R., TOKER N. K., AHMADİADLİ M.  
10th International Congress on Advances in Civil Engineering, Ankara, Turkey, 17 - 19 October 2012
- XX. **Rainfall triggered landslides in unsaturated soils A numerical sensitivity analysis**  
Ahmadiadli M., Huvaj Sarihan N., Toker N. K.  
10th International Congress on Advances in Civil Engineering, Ankara, Turkey, 17 - 19 October 2012
- XXI. **Geoteknik etüt raporlarındaki yaygın hataların belirlenmesi ve istatistiksel değerlendirilmesi**  
Özyurt G., TOKER N. K.  
Zemin Mekaniği ve Temel Mühendisliği Ondördüncü Ulusal Kongresi, Isparta, Turkey, 4 - 05 October 2012, vol.2, pp.517-526
- XXII. **Comparison of safety factors obtained from limit equilibrium methods and finite element analyses**  
ENGİN V., TOKER N. K.  
3rd International Conference on New Developments in Soil Mechanics and Geotechnical Engineering, Lefkoşa, Cyprus (Kkct), 28 - 30 June 2012
- XXIII. **Volume change measurement in triaxial testing of unsaturated soils**  
AHMADİNAGHADEH R., TOKER N. K.  
3rd International Conference on New Developments in Soil Mechanics and Geotechnical Engineering, Lefkoşa, Cyprus (Kkct), 28 - 30 June 2012

- XXIV. **Comparison of formulae for shear strength of unsaturated soils**  
ZEHTAB K. H., TOKER N. K., AHMADIADLI M.  
3rd International Conference on New Developments in Soil Mechanics and Geotechnical Engineering, Lefkoşa, Cyprus (Kkct), 28 - 30 June 2012
- XXV. **Comparative study of soil water characteristic curve prediction methods**  
Ahmadiadli M., Huvaj Sarihan N., Toker N. K., Kürkçü M. G.  
3rd International Conference on New Developments in Soil Mechanics and Geotechnical Engineering, Lefkoşa, Cyprus (Kkct), 28 - 30 June 2012
- XXVI. **Rainfall triggered landslides in unsaturated soils a numerical sensitivity analysis for rainfall threshold**  
Ahmadiadli M., Huvaj Sarihan N., Toker N. K.  
General Assembly 2012 of the European Geosciences Union, Vienna, Austria, 22 - 27 April 2012
- XXVII. **Metro tünellerinin yanında ankrajlı derin kazı iksası tasarımı**  
TOKER N. K., ÖZLÜ P., MAGHSOUDLOO A., AHMADI NAGHADEH R.  
Prof.İsmet Ordemir'i Anma Toplantısı ve 6. ODTÜ Geoteknik Mühendisliği Sempozyumu, Ankara, Turkey, 23 November 2011, pp.1-20

## Other Publications

- I. **Comment on "Cavitation during desaturation of porous media under tension" by Dani Or and Markus Tuller**  
Toker N. K., Germaine J. T., Culligan P. J.  
Other, pp.1305-1307, 2003

## Supported Projects

- Huvaj Sarihan N., Osman A., Toker N. K., Newton Programme Project, SHALLOW LANDSLIDE SUSCEPTIBILITY MAPPING IN RIZE, TURKEY (Funded by UK Newton Fund, IAPP Industry-Academia Partnership), 2020 - 2023
- Ülker M. B. C., Toker N. K., TUBITAK Project, Doygun Olmayan Zeminlerin Statik Davranışlarının Bünyesel Modellenmesi ve Mühendislik Uygulamalarında Kullanımı, 2017 - 2022
- TOKER N. K., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016
- TOKER N. K., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014
- TOKER N. K., Project Supported by Other Private Institutions, Bilgisayar Kontrollü Otomatik Üç Eksenli Deney Düzeneği Geliştirme, 2013 - 2014
- TOKER N. K., AHMAD NAGHADEH R., Project Supported by Higher Education Institutions, DOYGUN OLMAYAN ZEMİNLERDE ÜÇ EKSENLI DENEYLERLE BÜNYE MODELLEMESİ, 2013 - 2013

## Memberships / Tasks in Scientific Organizations

- ISSMGE Technical Committee 106 - Unsaturated Soils, Member of Science Committee, 2018 - Continues, United Kingdom
- ISSMGE Technical Committee 101 - Laboratory Testing, Member of Science Committee, 2018 - Continues, United Kingdom

## Scientific Refereeing

- INTERNATIONAL JOURNAL OF GEOMECHANICS, Journal Indexed in SCI-E, September 2022

Zemin Mekaniği ve Temel Mühendisliği 18. Ulusal Kongresi , Conference Paper (Full Text), September 2022  
3rd PanAmerican Conference on Unsaturated Soils, Conference Paper (Full Text), January 2021  
3rd PanAmerican Conference on Unsaturated Soils, Conference Paper (Full Text), January 2021  
GEOTECHNICAL TESTING JOURNAL, Journal Indexed in SCI-E, July 2020  
INTERNATIONAL JOURNAL OF GEOMECHANICS, Journal Indexed in SCI-E, October 2019  
PHYSICS AND CHEMISTRY OF THE EARTH, Journal Indexed in SCI-E, August 2019  
INTERNATIONAL JOURNAL OF GEOMECHANICS, Journal Indexed in SCI-E, June 2019  
TEKNIK DERGI, National Scientific Refreed Journal, November 2018  
JOURNAL OF POROUS MEDIA, Journal Indexed in SCI-E, May 2018  
7th International Conference on Unsaturated Soils, Conference Paper (Full Text), January 2018

## Scientific Consultations

ALFA Test Ekipmanları Ltd.Şti., Scientific Consultancy, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey, 2019 - Continues  
Toker Drilling and Construction, Scientific Consultancy, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey, 2017 - 2019  
TOKER Drilling & Construction, Scientific Consultancy, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey, 2018 - 2018  
Gümrük ve Turizm İşletmeleri Tic.A.Ş., Scientific Consultancy, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey, 2018 - 2018  
ALFA Testing Equipment, Scientific Consultancy, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey, 2018 - 2018

## Tasks In Event Organizations

Toker N. K., Ekinci A., Çetin K. Ö., International Workshop on Advances in Laboratory Testing of Liquefiable Soils, Workshop Organization, Girne, Cyprus (Kkct), Eylül 2022  
Toker N. K., Ekinci A., Çetin K. Ö., 2nd Nature Inspired Solutions for the Built Environment, Scientific Congress, Girne, Cyprus (Kkct), Eylül 2022  
Toker N. K., Ekinci A., Çetin K. Ö., Kuzey Kıbrıs 2. Ulusal İnşaat Mühendisliği Sempozyumu, Scientific Congress, Girne, Cyprus (Kkct), Eylül 2022

## Metrics

Publication: 46  
Citation (WoS): 98  
Citation (Scopus): 115  
H-Index (WoS): 5  
H-Index (Scopus): 6

## Invited Talks

Yerinde Büyük Ölçekli Kesme Deneyleri, Seminar, DSİ Teknik Araştırma ve Kalite Kontrol Dairesi, Turkey, September 2022

## **Non Academic Experience**

Company, TOKER Drilling & Construction, -  
TOKER Sondaj ve İnşaat Ltd. Şti.