

## Prof. MURAT GÜLER

### Personal Information

Office Phone: [+90 312 210 2464](tel:+903122102464)

Fax Phone: [+90 312 210 5401](tel:+903122105401)

Email: [gmurat@metu.edu.tr](mailto:gmurat@metu.edu.tr)

Web: <https://avesis.metu.edu.tr/gmurat>

### International Researcher IDs

ScholarID: 4TLIV98AAAAJ

ORCID: 0000-0001-6939-3322

Publons / Web Of Science ResearcherID: AAR-1150-2020

ScopusID: 57198106914

Yoksis Researcher ID: 163719

### Education Information

Doctorate, The University of Wisconsin Madison, United States Of America 1997 - 2002

Postgraduate, The University of Wisconsin Madison, United States Of America 1995 - 1997

Undergraduate, Karadeniz Technical University, Mühendislik-Mimarlık Fakültesi, İnşaat Mühendisliği Pr., Turkey 1988 - 1992

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Characterization of hot mixture asphalt shear resistance and correlation with rutting performance, The University Of Wisconsin Madison, 2002

Postgraduate, Applications of digital image analysis and processing methods in studying soil characteristics. , The University Of Wisconsin Madison, 1997

### Research Areas

Civil Engineering

### Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2014 - Continues  
Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2009 - 2014

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2005 - 2008

Lecturer PhD, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2004 - 2005  
Lecturer PhD, University of Maryland, Civil And Env. Eng., 2003 - 2003  
Assistant Professor, Bucknell University, Civil Engineering, 2002 - 2003  
Lecturer, The University of Wisconsin Madison, Engineering Mech. And Astronautics, 2001 - 2002  
Lecturer, The University of Wisconsin Madison, Department Of Mathematics, 2000 - 2000  
Research Assistant, The University of Wisconsin Madison, Civil And Envr. Eng., 1997 - 2000  
Lecturer, Ataturk University, Erzincan Meslek Yüksekokulu, İnşaat Pr., 1994 - 1994

## Advising Theses

GÜLER M., Investigation of variations in performance properties of asphalt concrete using image-based finite element model, Doctorate, Y.KARAKAYA(Student), 2022  
GÜLER M., Utilization of borax sludge in soft soil subgrade stabilization., Postgraduate, C.CEYLAN(Student), 2015  
GÜLER M., Low temperature performance of asphalt concrete under direct tension loading, Postgraduate, Y.KARAKAYA(Student), 2015  
GÜLER M., Utilization of borax sludge in soft subgrade soil stabilization, Postgraduate, C.Ceylan(Student), 2015  
GÜLER M., The influence of different mixture design variables on thermal fatigue cracking of asphalt concrete pavements, Postgraduate, A.ARABZADEH(Student), 2014  
GÜLER M., The Influence of different mixture design variables on thermal fatigue cracking of asphalt concrete pavements /, Postgraduate, A.Arabzadeh(Student), 2014  
GÜLER M., Design of crack free, durable and ductile concrete for sustainable highway rigid pavement overlays, Doctorate, H.ERHAN(Student), 2013  
ÇOKÇA E., GÜLER M., Improvement of bearing capacity of a soft soil by the addition of fly ash, Postgraduate, M.AZİZ(Student), 2011  
GÜLER M., Evaluation of resilient modulus estimation methods for asphalt mixtures based on laboratory measurements, Postgraduate, C.DEMİRCİ(Student), 2010  
GÜLER M., Investigation of low temperature cracking in asphalt concrete pavement, Doctorate, A.QADIR(Student), 2010  
GÜLER M., Effect of recycled cement concrete content on rutting behavior of asphalt concrete, Postgraduate, W.AHMED(Student), 2008  
GÜLER M., Relationship between resilient modulus and soil index properties of unbound materials, Postgraduate, E.ÇÖLERİ(Student), 2007  
YAMAN İ. Ö., GÜLER M., Investigation of relationship between aggregate shape parameters and concrete strength using imaging techniques, Postgraduate, M.ÖZEN(Student), 2007

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

- I. **READv2: advanced and user-friendly detection of biological relatedness in archaeogenomics**  
Alaçamlı E., Naidoo T., GÜLER M., Sağlıcan E., Aktürk Ş., Mapelli I., Vural K. B., SOMEL M., Malmström H., Günther T.  
Genome Biology, vol.25, no.1, 2024 (SCI-Expanded)
- II. **Investigation of the influence of mixture and microstructural properties on the thermal conductivity of asphalt concrete using the transient heat transfer method**  
DEMİRTÜRK D., ÖZTÜRK H. I., GÜLER M.  
Materials and Structures/Materiaux et Constructions, vol.57, no.8, 2024 (SCI-Expanded)
- III. **Influence of warm mix additive on internal structure of dry process crumb rubber modified mixtures**  
Yucel A. O., ÖZTÜRK H. I., GÜLER M.  
Journal of Cleaner Production, vol.313, 2021 (SCI-Expanded)
- IV. **QUANTIFICATION OF SEGREGATION IN PORTLAND CEMENT CONCRETE BASED ON SPATIAL DISTRIBUTION OF AGGREGATE SIZE FRACTIONS**

- ÖZEN M., GÜLER M.  
IMAGE ANALYSIS & STEREOLOGY, vol.39, no.3, pp.147-159, 2020 (SCI-Expanded)
- V. **Thermal fatigue behavior of asphalt concrete: A laboratory-based investigation approach**  
Arabzadeh A., GÜLER M.  
INTERNATIONAL JOURNAL OF FATIGUE, vol.121, pp.229-236, 2019 (SCI-Expanded)
- VI. **Investigation of glass transition temperature of asphalt concrete**  
Qadir A., Güler M.  
Journal Of Testing And Evaluation, vol.45, no.5, pp.1680-1690, 2017 (SCI-Expanded)
- VII. **Rutting susceptibility of asphalt concrete with recycled concrete aggregate using revised Marshall procedure**  
Gul W. A., GÜLER M.  
CONSTRUCTION AND BUILDING MATERIALS, vol.55, pp.341-349, 2014 (SCI-Expanded)
- VIII. **Assessment of optimum threshold and particle shape parameter for the image analysis of aggregate size distribution of concrete sections**  
Ozen M., GÜLER M.  
OPTICS AND LASERS IN ENGINEERING, vol.53, pp.122-132, 2014 (SCI-Expanded)
- IX. **Thin ECC overlay systems for rehabilitation of rigid concrete pavements**  
Yucel H. E., Jashami H., Sahmaran M., GÜLER M., Sahmaran M.  
MAGAZINE OF CONCRETE RESEARCH, vol.65, no.2, pp.108-120, 2013 (SCI-Expanded)
- X. **Determination of displacement distributions in bolted steel tension elements using digital image techniques**  
SÖZEN Ş., GÜLER M.  
OPTICS AND LASERS IN ENGINEERING, vol.49, no.12, pp.1428-1435, 2011 (SCI-Expanded)
- XI. **Evaluation of high temperature performance of SBS plus Gilsonite modified binder**  
KÖK B. V., YILMAZ M., GÜLER M.  
FUEL, vol.90, no.10, pp.3093-3099, 2011 (SCI-Expanded)
- XII. **Prediction of Subgrade Resilient Modulus Using Genetic Algorithm and Curve-Shifting Methodology Alternative to Nonlinear Constitutive Models**  
Coleri E., GÜLER M., Gungor A. G., Harvey J. T.  
TRANSPORTATION RESEARCH RECORD, no.2170, pp.64-73, 2010 (SCI-Expanded)
- XIII. **Effects of mix design variables on mechanical properties of hot mix asphalt**  
Guler M.  
JOURNAL OF TRANSPORTATION ENGINEERING, vol.134, no.3, pp.128-136, 2008 (SCI-Expanded)
- XIV. **Analysis of factors affecting strain distribution in geosynthetics**  
Kutay M., Guler M., Aydilek A.  
JOURNAL OF GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING, vol.132, no.1, pp.1-11, 2006 (SCI-Expanded)

### Articles Published in Other Journals

- I. **THE POLYMER EFFECTS ON BITUMEN PERFORMANCE PROPERTIES IN KAZAKHSTAN**  
Samal K., GÜLER M., Daniyar B., Zhanar K., Aigul K.  
International Journal of GEOMATE, vol.23, no.100, pp.34-43, 2022 (ESCI)

### Books & Book Chapters

- I. **Characterization of Homogeneity of Asphalt Concrete Using 2D Cross-Sectional Images**  
YÜCEL A. Ö., GÜLER M.  
in: Lecture Notes in Civil Engineering, Biswajeet Pradhan, Editor, Springer, Singapore, pp.273-281, 2018

## Refereed Congress / Symposium Publications in Proceedings

- I. **Using Calorimetry-Based Method for Measuring Specific Heat Capacity of Asphalt Concrete**  
DEMİRTÜRK D., ÖZTÜRK H. I., GÜLER M.  
3rd International Civil Engineering and Architecture Congress (ICEARC'23), Trabzon, Turkey, 12 - 14 December 2023, vol.1, pp.2031-2040
- II. **INVESTIGATION OF THE SHIP-GENERATED WASTE AS BINDER MODIFIER**  
Öztürk H. I., Kamran F., Güler M.  
7th International Conference Bituminous Mixtures and Pavements, Thessaloniki, Greece, 12 - 14 June 2019, pp.36-40
- III. **Evaluation of Laboratory Performance of Zycotherm Additive for Extended Moisture Resistance of HMA Pavements**  
Güler M., Karakaya Y., Varlı B.  
INTERNATIONAL CIVIL ENGINEERING AND ARCHITECTURE CONFERENCE 2019, Trabzon, Turkey, 17 - 20 April 2019, pp.1-10
- IV. **Investigation of the ship-generated waste as binder modifier**  
ÖZTÜRK H. I., Kamran F., GÜLER M.  
7th International Conference on Bituminous Mixtures and Pavements, ICONFBMP 2019, Thessaloniki, Greece, 12 - 14 June 2019, pp.36-40
- V. **Evaluation of Aggregate Size Effect on Asphalt Mixture Homogeneity Using Image Analysis**  
YÜCEL A. Ö., GÜLER M.  
13th International Congress on Advances in Civil Engineering, İzmir, Turkey, 12 - 14 October 2018
- VI. **Application of Voronoi Polygons and 3-Point Correlation for Identifying Uniformity of the Concrete Samples**  
ÖZEN M., GÜLER M.  
13th International Congress on Advances in Civil Engineering, İzmir, Turkey, 12 - 14 September 2018
- VII. **Characterization of Homogeneity of Asphalt Concrete Using 2D Cross Sectional Images**  
YÜCEL A. Ö., GÜLER M.  
Global Civil Engineering Conference (GCEC2017), Kuala-Lumpur, Malaysia, 26 - 28 July 2017
- VIII. **Identifying an Optimal Shape Parameter to Estimate Grain Size Distribution of Concrete Samples Using Imaging Techniques**  
ÖZEN M., YAMAN İ. Ö., GÜLER M.  
10th International Congress on Advances in Civil Engineering, 17 - 19 October 2012
- IX. **Finite Element Modelling of Thermal Stress Restrained Specimen Test**  
QUADIR A., GÜLER M.  
5th Eurasphalt & Eurobitume Congress, 13 - 15 June 2012
- X. **Effect of Aggregate Type and Rate of Temperature Change on Fracture Strength of Asphalt Concrete**  
QUADIR A., GÜLER M.  
5th International Conference on Bituminous Mixtures and Pavements, 2 - 03 June 2011
- XI. **Determination of Deformation Distributions in Welded Steel Tension Elements Using Digital Image Techniques**  
SÖZEN Ş., GÜLER M.  
9th International Congress on Advances in Civil Engineering, 27 - 30 September 2010
- XII. **Using Dynamic Modulus as an Indicator for Thermal Strength of Asphalt Concrete**  
QUADIR A., GÜLER M.  
First Meeting and Technical Conference of the Middle East Society of Asphalt Technologists, 5 - 08 July 2010
- XIII. **Rutting behavior of asphalt concrete modified with recycled concrete aggregate**  
GUL W. A., GÜLER M.  
The 6th International Congress on Maintenance and Rehabilitation of Pavements and Technological Control, 8 - 10 July 2009
- XIV. **Correlation between light falling weight deflectometer results and laboratory measured elastic**

### **response of unbound materials**

Coleri E., GÜLER M., Avsar C., Gungor A. G., Ozay O.

4th International Symposium on Deformation Characteristics of Geomaterials, Georgia, United States Of America, 22 - 24 September 2008, pp.831-837

XV. **Compaction Behaviour of Hot Mix Asphalt Using a Compaction Simulation Model**

GÜLER M.

Transport Research Arena Europe 2008, 21 - 24 September 2008

XVI. **Measurement of Small Strains in Steel Samples Using Digital Imaging Technigues**

SÖZEN Ş., GÜLER M.

8th International Congress on Advances in Civil Engineering, 15 - 17 September 2008

XVII. **Investigation of Relationship between Aggregate Shape Parameters and Concrete Strength Using Imaging Technigues**

ÖZEN M., YAMAN İ. Ö., GÜLER M.

8th International Congress on Advances in Civil Engineering, 15 - 17 September 2008

XVIII. **Rutting Potential of Asphalt Mixtures Using Concept of Shear Resistance**

GÜLER M., BOSSCHER P.

Rutting Potential of Asphalt Mixtures Using Concept of Shear Resistance, 12 - 15 June 2006

### **Supported Projects**

ÖZTÜRK H. I., GÜLER M., Project Supported by Higher Education Institutions, Ağırlıklı ölçümüne dayalı DARA yöntemi ile bitümlü bağlayıcıların kimyasal özelliklerinin incelenmesi ve fiziksel ve reolojik özelliklere etkisinin belirlenmesi, 2021 - 2024

GÜLER M., KARAKAYA Y., Project Supported by Higher Education Institutions, GERİ DÖNÜŞÜMÜ YAPILAN KARIŞIMLARIN SONLU ELEMANLAR YÖNTEMİ İLE İNCELENMESİ, 2018 - 2020

ÖZTÜRK H. I., GÜLER M., Project Supported by Higher Education Institutions, Performans bazlı asfalt karışım deneylerinin yapılabilmesi için altyapı geliştirilmesi, 2016 - 2019

GÜLER M., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2015

GÜLER M., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014

### **Metrics**

Publication: 34

Citation (WoS): 205

Citation (Scopus): 284

H-Index (WoS): 8

H-Index (Scopus): 8

### **Non Academic Experience**

METU

University of Maryland

Bucknell University