

## Assoc. Prof. GAYE KÖSE DEMİREL

### Personal Information

**Office Phone:** [+90 462 377 1538](tel:+904623771538) Extension: 1538

**Email:** [gkose@ktu.edu.tr](mailto:gkose@ktu.edu.tr)

**Web:** <https://avesis.ktu.edu.tr/gkose>

### International Researcher IDs

ORCID: 0000-0002-1443-6943

Publons / Web Of Science ResearcherID: AAJ-6512-2021

ScopusID: 57200449878

Yoksis Researcher ID: 149599

### Education Information

Doctorate, Karadeniz Technical University, -, Orman Endüstri Mühendisliği, Turkey 2012 - 2018

Postgraduate, Karadeniz Technical University, -, Orman Endüstri Mühendisliği, Turkey 2009 - 2012

Undergraduate, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, Turkey 2005 - 2009

### Certificates, Courses and Trainings

IT, AutoCAD, MEB, 2006

### Dissertations

Doctorate, Odun Korumada Polimerize Edilmiş Bitkisel Yağların Kullanılabilirliğinin Araştırılması, Karadeniz Technical University, Fen Bilimleri, Orman Endüstri Mühendisliği/ Orman Biyolojisi Ve Odun Koruma Tekn., 2018

Postgraduate, Isıl İşlem Sırasında Açığa Çıkan Katranın Odun Koruma Maddesi Olarak Kullanılabilirliği, Karadeniz Technical University, Orman Endüstri Mühendisliği, 2012

### Research Areas

Agricultural Sciences, Forestry, Forest Industry Engineering, Forest Biology and Wood Protection Technology

### Academic Titles / Tasks

Assistant Professor, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, 2023 - Continues

Research Assistant PhD, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, 2018 - 2023

Research Assistant, Karadeniz Technical University, Orman Fakültesi, Orman Endüstri Mühendisliği, 2011 - 2018

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

- Enhanced thermal properties and dimensional stability of wood treated with phase-change materials

**for building energy storage applications**

ERDEYER Ö. N., TEMİZ A., HEKİMOĞLU G., ASLAN M., KÖSE DEMİREL G., Ozturk G., SARI A., Gencil O.  
WOOD MATERIAL SCIENCE & ENGINEERING, 2025 (SCI-Expanded)

- II. **Microencapsulated phase change material/wood fiber-starch composite as novel bio-based energy storage material for buildings**  
Öztürk G., Temiz A., Hekimoğlu G., Aslan M., Köse Demirel G., Erdeyer Ö. N., Sarı A., Gencil O., Subaşı S.  
Journal of Energy Storage, vol.84, 2024 (SCI-Expanded)
- III. **Evaluation of Lauric-Myristic Acid as Phase Change Material in Thermally Modified Wood for Thermal Energy Storage**  
KÖSE DEMİREL G.  
BioResources, vol.18, no.4, pp.7186-7201, 2023 (SCI-Expanded)
- IV. **Properties of Scots pine wood impregnated with capric acid for potential energy saving building material**  
Amini M. H. M., TEMİZ A., HEKİMOĞLU G., Demirel G., SARI A.  
HOLZFORSCHUNG, vol.76, no.8, pp.744-753, 2022 (SCI-Expanded)
- V. **Characterization and Ofloxacin Adsorption Studies of Chemically Modified Activated Carbon from Cassava Stem**  
Sulaiman N. S., Mohamad Amini M. H., Danish M., Sulaiman O., Hashim R., Demirel S., Köse Demirel G.  
MATERIALS, vol.15, no.15, 2022 (SCI-Expanded)
- VI. **Bio-Based Phase Change Materials for Wooden Building Applications**  
Palanti S., Temiz A., Köse Demirel G., Hekimoğlu G., Sarı A., Jebrane M., Schnabel T., Terziev N.  
FORESTS, vol.13, no.4, pp.1-8, 2022 (SCI-Expanded)
- VII. **Physical properties, thermal and fungal resistance of Scots pine wood treated with nano-clay and several metal-oxides nanoparticles**  
Holy S., Temiz A., Köse Demirel G., Aslan M., Mohamad Amini M. H.  
WOOD MATERIAL SCIENCE & ENGINEERING, vol.17, no.3, pp.176-185, 2022 (SCI-Expanded)
- VIII. **Decay, insect, and termite resistance of wood modified with epoxidized vegetable oils**  
Demirel G. K., TEMİZ A., Palanti S., Terziev N.  
HOLZFORSCHUNG, vol.75, no.3, pp.281-287, 2021 (SCI-Expanded)
- IX. **Phase change material impregnated wood for passive thermal management of timber buildings**  
TEMİZ A., HEKİMOĞLU G., KÖSE DEMİREL G., SARI A., Mohamad Amini M. H.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.44, no.13, pp.10495-10505, 2020 (SCI-Expanded)
- X. **Characterization of tanalith E treated wood flour filled polylactic acid composites**  
Dalu M., Temiz A., Altuntas E., Demirel G. K., Aslan M.  
POLYMER TESTING, vol.76, pp.376-384, 2019 (SCI-Expanded)
- XI. **Micro-distribution, Water Absorbption and Dimensional Stability of Wood Treated with Epoxidized Plant Oils**  
KÖSE DEMİREL G., TEMİZ A., Jebrane M., Terziev N., GEZER E. D.  
BIORESOURCES, vol.13, no.3, pp.5124-5138, 2018 (SCI-Expanded)
- XII. **Effect of Alkyl Ketene Dimer on the Physical, Mechanical, and Biological Durability of Plywood**  
Demirel G., GÜDÜL H., TEMİZ A., Kustas S., AYDIN İ.  
BIORESOURCES, vol.13, no.1, pp.147-156, 2018 (SCI-Expanded)
- XIII. **LEACHING AND DECAY RESISTANCE OF ALDER AND PINE WOOD TREATED WITH COPPER BASED WOOD PRESERVATIVES**  
TEMİZ A., Alfredsen G., YILDIZ Ü. C., GEZER E. D., Kose G., Akbas S., YILDIZ S.  
MADERAS-CIENCIA Y TECNOLOGIA, vol.16, no.1, pp.63-76, 2014 (SCI-Expanded)
- XIV. **Effect of bio-oil and epoxidized linseed oil on physical, mechanical, and biological properties of treated wood**  
TEMİZ A., Kose G., Panov D., Terziev N., Alma M. H., Palanti S., Akbas S.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.130, no.3, pp.1562-1569, 2013 (SCI-Expanded)
- XV. **Chemical Composition and Efficiency of Bio-oil Obtained from Giant Cane (Arundo donax L.) as a**

## Wood Preservative

TEMİZ A., Akbas S., Panov D., Terziev N., Alma M. H., Parlak S., Kose G.  
BIORESOURCES, vol.8, no.2, pp.2084-2098, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Characterization of 1-tetradecanol's performance as a phase change material in thermally modified ash wood**  
Köse Demirel G.  
Mobilya ve ahşap malzeme arařtırmaları dergisi (Online), vol.6, no.2, pp.278-288, 2023 (Peer-Reviewed Journal)
- II. **N-octadecane /bio-char composite: preparation, characterization and energy storage properties**  
Köse Demirel G.  
Mobilya ve ahşap malzeme arařtırmaları dergisi (Online), vol.6, no.2, pp.245-255, 2023 (Peer-Reviewed Journal)
- III. **EVALUATION OF ENVIRONMENTALLY FRIENDLY PLYWOOD MADE USING GLUTARALDEHYDE-MODIFIED STARCH AS THE BINDER**  
Amini M. H., Hermawan A., Sulaiman N. S., Sobri S. A., Köse Demirel G.  
BULLETIN OF THE TRANSILVANIA UNIVERSITY OF BRASOV, SERIES II: FORESTRY, WOOD INDUSTRY, AGRICULTURAL FOOD ENGINEERING, vol.15, no.64, pp.65-76, 2022 (Scopus)
- IV. **Biological resistance and leaching mechanism of alder camellias prepared by impregnation with Tanalith E and Celcure AC 500**  
Kılınç S., Temiz A., Köse Demirel G.  
Ormanlık Arařtırma Dergisi, vol.9, pp.363-368, 2022 (Peer-Reviewed Journal)
- V. **Water absorption and mechanical properties of scots pine (Pinus sylvestris L.) wood samples treated with alkyl ketene dimer / boric acid combinations**  
Köse Demirel G., Temiz A.  
Ormanlık Arařtırma Dergisi, vol.9, no.Özel, pp.142-147, 2022 (Peer-Reviewed Journal)
- VI. **AHŞAP KORUMADA ÇEVRE DOSTU MODİFİKASYON YÖNTEMLERİ**  
KÖSE DEMİREL G., TEMİZ A.  
Selçuk Üniversitesi Teknik Online Dergisi, vol.14, no.1, pp.1016-1032, 2015 (Peer-Reviewed Journal)
- VII. **Ahşap Malzemenin Korunması (Emprenye) ile ilgili sıkça sorulan sorular**  
KÖSE DEMİREL G., TEMİZ A.  
Mobilya Dergisi, no.114, pp.92-98, 2013 (Peer-Reviewed Journal)

## Papers Published in Refereed Scientific Meetings

- I. **TENSILE STRENGTH BEHAVIOR OF THERMALLY MODIFIED ASH WOOD IN BONE SHAPE**  
Köse Demirel G.  
6TH INTERNATIONAL BLACK SEA MODERN SCIENTIFIC RESEARCH CONGRESS, Trabzon, Turkey, 23 - 25 August 2024, pp.360
- II. **Physical, Mechanical and Biological Tests of Solid Wood and Bio-Composites with BioPCM and thermal characteristics of Small-Scale Models in Three European Countries**  
Aminti G., Atena A., Burato P., Brunetti M., KÖSE DEMİREL G., ERDEYER Ö. N., De Francesco F., Jebrane M., Grzybek J., Nazari M., et al.  
11th European Conference on Wood Modification, 15 - 16 April 2024
- III. **TANALITH E ve CELCURE AC500 İLE EMPRENYE EDİLEREK HAZIRLANAN KIZILAĞAÇ KAMELYALARININ BİYOLOJİK DAYANIMI VE YIKANMA MEKANİZMASI**  
Temiz A., Kılınç S., Köse Demirel G.  
IV. Ulusal Karadeniz Ormanlık Kongresi, Trabzon, Turkey, 6 - 09 December 2021, pp.33
- IV. **ALKİL KETEN DİMER / BORİK ASİT KOMBİNASYONLARI İLE EMPRENYE EDİLEN SARIÇAM (PİNUS**

**SYLVESTRIS L.) ÖRNEKLERİNİN BOYUTSAL KARARLILIĞI VE MEKANİK ÖZELLİKLERİ**

Köse Demirel G., Temiz A.

IV. Ulusal Karadeniz Ormancılık Kongresi, Trabzon, Turkey, 6 - 09 December 2021, pp.23

**V. ENERJİ DEPOLAMADA FAZ DEĞİŞTİREN MADDELERİN AHŞAP MALZEMEDE KULLANILMASI**

Erdeyer Ö. N., Temiz A., Hekimoğlu G., Köse Demirel G., Sarı A.

IV. Ulusal Karadeniz Ormancılık Kongresi, Trabzon, Turkey, 6 - 09 December 2021, pp.28

**VI. TERMAL ENERJİ DEPOLAMADA FAZ DEĞİŞTİREN MADDELERİN ODUN KOMPOZİTLERİNDE KULLANILABİLİRLİĞİ**

Öztürk G., Temiz A., Hekimoğlu G., Köse Demirel G., Aslan M., Sarı A.

IV. Ulusal Karadeniz Ormancılık Kongresi, Trabzon, Turkey, 6 - 09 December 2021, pp.34

**VII. NATURAL WEATHERING AND BIOFINISHING OF WOOD MODIFIED WITH EPOXIDIZED VEGETABLE OILS**

Köse Demirel G., Temiz A., Terziev N.

VI. International Furniture Congress, Trabzon, Turkey, 2 - 05 November 2020, pp.82

**VIII. THE EFFECT OF NANO-SIZED COMPOUNDS ON WOOD PRESERVATION**

Holy S., Temiz A., Köse Demirel G., Aslan M.

III. International Mediterranean Forest and Environment Symposium, Kahramanmaraş, Turkey, 3 - 05 October 2019, pp.119-124

**IX. Emprenyeli Kızılağacın Dış Ortam Dayanımı**

TEMİZ A., KÖSE DEMİREL G., Kılınç S.

III. International Mediterranean Forest and Environment Symposium, Kahramanmaraş, Turkey, 3 - 05 October 2019, pp.155

**X. Decay and Insect Resistance of Modified Wood with Epoxidized Plant Oils**

KÖSE DEMİREL G., TEMİZ A., PALANTI S., TERZIEV N.

Final COST AcO on FP1407 InternaO onal Conference "Living with Modified Wood", Belgrad, Serbia And Montenegro, 12 - 13 December 2018, pp.86-87

**XI. Epoksitlendirilmiş Bitkisel Yağların ve Nano-Kilin Odunun Su Alması ve Yanma Özellikleri Üzerine Etkisi**

DEMİR S., TEMİZ A., KÖSE DEMİREL G.

4th International Non-Wood Forest Products Symposium, Bursa, Turkey, 4 - 06 October 2018, pp.132-140

**XII. Micro-distribution of Epoxidized Oils in Wood**

KÖSE DEMİREL G., TEMİZ A., GEZER E. D.

COST FP1407 3rd International Conference- Wood Modification Research and applications, Kuchl, Austria, 14 - 15 September 2017, pp.65-66

**XIII. The Outdoor Durability of the Picnic Tables Constructed from Different Wood Species Impregnated with Tanalith E and Celcure AC500**

Köse Demirel G., Temiz A., Kılınç S., Demirel S., Akbaş S.

II. International Furniture Congress, Muğla, Turkey, 13 October 2016, pp.373-376

**XIV. EVALUATION OPPORTUNITIES OF IMPREGNATED PRODUCTS CONTAINING CREOSOTE THAT COMPLETED THE SERVICE LIFE IN WOOD PLASTIC COMPOSITES (WPCs): SURFACE CHANGES UNDER ACCELERATED WEATHERING**

Akbaş S., TEMİZ A., GEZER E. D., KÖSE DEMİREL G.

II. International Furniture Congress, Muğla, Turkey, 13 - 15 October 2016, pp.386-392

**XV. DIMENSIONAL STABILITY AND MECHANICAL PROPERTIES OF EPOXIDIZED VEGETABLE OILS AS WOOD PRESERVATIVES**

KÖSE DEMİREL G., TEMİZ A., DEMİREL S., Jebrane M., Terziev N., GEZER E. D., ERTAŞ M.

2nd Conference: Innovative production technologies and increased wood products recycling and reuse, Brno, Czech Republic, 29 - 30 September 2016, pp.49-50

**XVI. Effects of Bio and Epoxidised Oil on Physical and Biological Properties of Treated Wood**

TEMİZ A., GEZER E. D., Akbas S., KÖSE DEMİREL G.

Cost Action FP1407 1st Conference Life Cycle Assessment EPDs and Modified Wood, Koper, Slovenia, 25 - 26

August 2015, pp.52-53

**XVII. Ahşap Korumada Çevre Dostu Modifikasyon Yöntemleri**

KÖSE DEMİREL G., TEMİZ A.

III. Ulusal Mobilya Kongresi, Konya, Turkey, 10 - 12 April 2015, pp.100-113

**XVIII. Using Commercial Water Repellent Chemicals on Wood Protection**

KÖSE G., TEMİZ A., DEMİREL S., ÖZKAN O. E.

The International Research Group on Wood Protection, St. George, United States Of America, 11 - 15 May 2014, pp.1-13

**XIX. The Physical Properties of Heat Treated Fir Wood and Outdoor Durability**

ÖZKAN O. E., Vurdu H., TEMİZ A., KÖSE G.

The International Research Group on Wood Protection 45th Annual Meeting, Utah, United States Of America, 10 - 15 May 2014, pp.1-9

**XX. Effect of Climate Factors on Wood Veneers Exposed to Outdoor Conditions in Black Sea Region**

KÖSE G., TEMİZ A., AKBAŞ S., ÖZKAN O. E.

International Caucasian Forestry Symposium, Artvin, Turkey, 24 - 26 October 2013, pp.870-877

**XXI. Dimensional stability and decay resistance of hardwood species Growing in Turkey**

TEMİZ A., akbaş s., KÖSE G.

The 4th Conference on Hardwood Research and Utilisation in Europe, Sopron, Hungary, 17 - 18 May 2010, pp.163-169

**XXII. Mobilya Üretiminde Kalite ve Kaliteyi Etkileyen Faktörlerin Analizi**

KÖSE G.

VI. Ulusal Orman Fakülteleri Öğrenci Kongresi, Düzce, Turkey, 8 - 09 May 2008, pp.412-417

## Supported Projects

YILMAZ B., USTAÖMER D., BIYIKLIOĞLU Z., DENİZ İ., TEMİZ A., KÖSE DEMİREL G., FAZLI H., AKÇAY S. B., HEKİMOĞLU G., Project Supported by Higher Education Institutions, Modifiye Kolofan ve Bitkisel Epoksi Yağ Kullanımının Odun ve MDF Levha Özelliklerine Etkisi, 2024 - Continues

Temiz A., Gezer E. D., Köse Demirel G., TÜBİTAK International Bilateral Joint Cooperation Program Project, Düşük Kaliteli Ağaç Türlerinin Doğal ve Bitkisel Esaslı Polimerler ile Birlikte Yoğunlaştırma İşlemine Tabi Tutularak Özelliklerinin İyileştirilmesi, 2021 - 2023

Köse Demirel G., Temiz A., Sarı A., Aslan M., Yıldırım İ., Çakır E., H2020 Project, BioBased Phase Changes Materials in Lignocellulose Matrix for Energy Store in Buildings. ERA-NET Smart Energy Systems , 2020 - 2023

Temiz A., Gezer E. D., TUBİTAK Project, Odun Korumada Epoksitlendirilmiş Bitkisel Yağların Kullanılabilirliği ve Borun Yıkanmasına Etkisi, 2014 - 2018

## Memberships / Tasks in Scientific Organizations

KAFFSA (International Forestry Students' Association), Chairman, 2007 - 2009

## Metrics

Publication: 44

Citation (WoS): 245

Citation (Scopus): 272

H-Index (WoS): 9

H-Index (Scopus): 10

## Scholarships

TÜBİTAK COST1407- STSM (Short Term Scientific Missions)- Florence/ Italy, Other International Organizations, 2017 - 2017

2214-A - International Research Fellowship Programme for PhD Students, Uppsala/ Sweden, University, 2015 - 2016

Erasmus Student Mobility- University of Bodenkultur, Vienna/ Austria, University, 2010 - 2011