

## Asst. Prof. SAFA NAYIR

### Personal Information

Office Phone: [+90 462 377 2649](tel:+904623772649)

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

Web: <https://avesis.ktu.edu.tr/safanayir>

### International Researcher IDs

ScholarID: uKbcjw4AAAAJ

ORCID: 0000-0001-7876-8763

Yoksis Researcher ID: 22219

### Education Information

Doctorate, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği, Turkey 2015 - 2021

Postgraduate, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği, Turkey 2013 - 2015

Undergraduate, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, Turkey 2008 - 2013

### Research Areas

Civil Engineering, Building materials, Engineering and Technology

### Academic Titles / Tasks

Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2023 - Continues

Research Assistant, Karadeniz Technical University, Fen Bilimleri Enstitüsü, 2013 - 2021

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

- I. **Investigation of ASR-induced crack development on mortars with mineral additives using image processing**  
Selim İ., Yılmaz Y., Nayır S.  
EUROPEAN JOURNAL OF ENVIRONMENTAL AND CIVIL ENGINEERING, vol.0, pp.1-22, 2024 (SCI-Expanded)
- II. **Experimental assessment of FRP repairing in concrete cylinders exposed high temperatures**  
AKBULUT Y. E., NAYIR S., ALTUNIŞIK A. C., KAHYA V., SÜNNETCİ M. O., ERSOY H.  
CASE STUDIES IN CONSTRUCTION MATERIALS, vol.21, 2024 (SCI-Expanded)
- III. **Machine learning based prediction of compressive and flexural strength of recycled plastic waste aggregate concrete**  
Yılmaz Y., Nayır S.  
Structures, vol.69, 2024 (SCI-Expanded)
- IV. **Investigation of Global Warming Potential of Concrete with Silica Fume and Blast Furnace Slag**  
NAYIR S., BAHADIR Ü., TOĞAN V.  
IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY-TRANSACTIONS OF CIVIL ENGINEERING, vol.48, no.4, pp.1965-1975, 2024 (SCI-Expanded)
- V. **Automated Estimation of Exposed Temperature and Strength Changing Ratio for Fire-Damaged**

### **Concrete Using Deep Learning Method**

Haciefendiođlu K., Akbulut Y. E., Nayır S., Bařađa H. B., Altunıřık A. C.  
EXPERIMENTAL TECHNIQUES, vol.46, no.5, pp.793-810, 2022 (SCI-Expanded)

- VI. **Automatic Estimation of Post-fire Compressive Strength Reduction of Masonry Structures Using Deep Convolutional Neural Network**  
HACIEFENDİOĐLU K., GENÇ A. F., NAYIR S., AYAS S., ALTUNIŐIK A. C.  
FIRE TECHNOLOGY, vol.58, no.5, pp.2779-2809, 2022 (SCI-Expanded)
- VII. **Long-Term Efficiency of Silica Fume in Terms of Sulfate Resistance of Concrete Immersed in Sulfate Solutions and Seawater**  
Erdođdu Ő., Kurbetci Ő., Nayır S.  
IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY-TRANSACTIONS OF CIVIL ENGINEERING, vol.46, no.4, pp.2739-2746, 2022 (SCI-Expanded)
- VIII. **Pozzolanic properties of trachyte and rhyolite and their effects on alkali-silica reaction**  
Baki V. A., NAYIR S., ERDOĐDU Ő., USTABAŐ İ.  
ADVANCES IN CONCRETE CONSTRUCTION, vol.11, no.4, pp.299-306, 2021 (SCI-Expanded)
- IX. **The Effects of Structural Lightweight Concrete on Energy Performance and Life Cycle Cost in Residential Buildings**  
NAYIR S., BAHADIR Ü., ERDOĐDU Ő., TOĐAN V.  
PERIODICA POLYTECHNICA-CIVIL ENGINEERING, vol.65, no.2, pp.500-509, 2021 (SCI-Expanded)
- X. **Determination of the Pozzolanic Activities of Trachyte and Rhyolite and Comparison of the Test Methods Implemented**  
Baki V. A., Nayır S., Erdođdu Ő., Ustabaő İ.  
INTERNATIONAL JOURNAL OF CIVIL ENGINEERING, vol.18, pp.1053-1066, 2020 (SCI-Expanded)
- XI. **Effects of cement dosage and steel fiber ratio on the mechanical properties of reactive powder concrete**  
ERDOĐDU Ő., KANDİL U., NAYIR S.  
ADVANCES IN CONCRETE CONSTRUCTION, vol.8, no.2, pp.139-144, 2019 (SCI-Expanded)
- XII. **Effectiveness of mineral additives in mitigating alkali-silica reaction in mortar**  
NAYIR S., ERDOĐDU Ő., KURBETCİ Ő.  
COMPUTERS AND CONCRETE, vol.20, no.6, pp.705-710, 2017 (SCI-Expanded)

### **Articles Published in Other Journals**

- I. **Determination of the efflorescence defects on concrete and plaster surfaces using a novel deep-learning model**  
Nayır S., Yılmaz Y.  
Journal of Structural Engineering & Applied Mechanics (Online), vol.7, no.2, pp.123-135, 2024 (Peer-Reviewed Journal)
- II. **Evaluation of structural lightweight concrete in terms of energy performance: A case study**  
Nayır S., Bahadır Ü., Erdođdu Ő., Tođan V.  
Pamukkale University Journal of Engineering Science, vol.27, no.6, pp.696-702, 2021 (ESCI)
- III. **Yüksek Fırın Cürüflü Betonların Bazı Mekanik Ve Durabilite Özellikleri**  
Erdođdu Ő., Kurbetci Ő., Kandil U., Nayır S., Nas M.  
Hazır beton Dergisi, no.167, pp.65-71, 2021 (Non Peer-Reviewed Journal)
- IV. **Evaluation of The Dependency of The Compressive Strength of Concrete on The Core Drilling Direction Through Anova Test**  
Erdođdu Ő., Nayır S., Kandil U., Kurbetci Ő., Nas M.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES, vol.38, no.4, pp.1879-1895, 2020 (ESCI)
- V. **Ultrasonic Pulse Velocity and Compressive Strength Evaluation of Concrete Containing Fly Ash Exposed to High Temperatures**

## Refereed Congress / Symposium Publications in Proceedings

- I. **Relationship Between Ultrasonic Pulse Velocity And Schmidt Rebound Number In High Temperature damaged Concrete**  
Nayir S.  
International Conference on Civil and Environmental Engineering (I2C2E - 2024), London, England, 7 - 08 November 2024, pp.33-38
- II. **Investigation effect of neoprene capping material on strength of concrete cylinders**  
Nayir S.  
3rd International Civil Engineering and Architecture Congress, Trabzon, Turkey, 12 - 14 October 2023, vol.1, pp.708-715
- III. **Effect of Different Concrete Types on Building Heating and Cooling Loads**  
Nayir S., Bahadır Ü., Erdoğan Ş., Toğan V.  
4th International Symposium of Engineering Application on Civil Engineering and Earth Sciences, Karabük, Turkey, 31 May - 02 June 2023, pp.247-256
- IV. **Investigation of Structural Lightweight Concrete in terms of Energy Efficiency in Residential Buildings**  
Nayir S., Bahadır Ü., Erdoğan Ş., Toğan V.  
14th INTERNATIONAL CONGRESS ON ADVANCES IN CIVIL ENGINEERING (ACE 2020-21), İstanbul, Turkey, 6 - 08 September 2021, pp.247-254
- V. **High Temperature Effects on Concretes Containing Silica Fume**  
ERDOĞDU Ş., KANDİL U., NAYIR S.  
10. International Concrete Congress, Bursa, Turkey, 2 - 04 May 2019, pp.541-550
- VI. **Evaluation of Heat of Hydration of Mortar Containing Ground Trachyte and Rhyolite**  
ERDOĞDU Ş., USTABAŞ İ., BAKI V. A., NAYIR S., KANDİL U.  
International Civil Engineering and Architecture, Trabzon, Turkey, 17 - 20 April 2019, vol.1, pp.2387-2393
- VII. **Effects of Different Curing Conditions on Some Mechanical and Durability Properties of Concretes Containing Silica Fume**  
ERDOĞDU Ş., KURBETCİ Ş., KANDİL U., NAYIR S., NAS M.  
13th International Congress on Advances in Civil Engineering, İzmir, Turkey, 12 - 14 September 2018, pp.1-9
- VIII. **Evaluation of the Compressive Strength of Concrete by means of Cores Taken from Different Casting Direction**  
ERDOĞDU Ş., KURBETCİ Ş., KANDİL U., NAS M., NAYIR S.  
13th International Congress on Advances in Civil Engineering, İzmir, Turkey, 12 - 14 September 2018, pp.1-10
- IX. **Investigation on Strength and Durability Properties of Concrete Containing Zeolite**  
NAS M., KURBETCİ Ş., NAYIR S.  
13th International Congress on Advances in Civil Engineering, İzmir, Turkey, 12 - 14 September 2018
- X. **Ultrasonic Pulse Velocity Evaluation Of Concrete Containing Silica Fume Exposed To High Temperatures**  
ERDOĞDU Ş., KURBETCİ Ş., NAS M., KANDİL U., NAYIR S.  
3. International Conference on Civil and Environmental Engineering, İzmir, Turkey, 24 - 27 April 2018, pp.108
- XI. **Investigation Of Some Mechanical And Durability Properties Of Fly Ash Concrete Subjected To Different Curing Conditions**  
ERDOĞDU Ş., KURBETCİ Ş., NAYIR S., KANDİL U., NAS M.  
3. International Conference on Civil and Environmental Engineering, İzmir, Turkey, 24 - 27 April 2018, pp.107
- XII. **Uçucu Kül ve Polipropilen Lifli Kireç Harçlarının Çimento Takviyesi ile Mekanik Özelliklerinin İyileştirilmesi**

ERDOĞDU Ş., NAS M., NAYIR S., KANDİL U.

Uluslararası Katılımlı 6. Tarihi Yapıların Korunması ve Güçlendirilmesi Sempozyumu, Trabzon, Turkey, 2 - 04 November 2017, pp.247-256

**XIII. Çimento-Katkı Uyumu Açısından Silis Dumanı ve Süperakışkanlaştırıcı Katkıların Bileşik Etkisi**

ERDOĞDU Ş., KURBETÇİ Ş., KANDİL U., NAS M., NAYIR S.

Uluslararası Yapılarda Kimyasal Katkılar 5. Sempozyumu ve Sergisi, Ankara, Turkey, 19 - 20 October 2017, pp.19-32

**XIV. Effects of Mineral Admixtures on the Alkali-Silica Reaction of a River Aggregate**

ERDOĞDU Ş., NAYIR S., KANDİL U.

ICOCEE CAPPADOCIA 2017, Nevşehir, Turkey, 8 - 10 May 2017, pp.3090-3100

**XV. Ultrasonic Pulse Velocity and Compressive Strength Evaluation of Concrete Containing Fly Ash Exposed to High Temperatures**

ERDOĞDU Ş., KANDİL U., NAS M., KURBETÇİ Ş., NAYIR S.

ICOCEE CAPPADOCIA 2017, Nevşehir, Turkey, 8 - 10 May 2017, pp.3075-3089

**XVI. Yüksek Fırın Cürüflü Betonların Bazı Mekanik ve Durabilite Özellikleri**

ERDOĞDU Ş., KURBETÇİ Ş., KANDİL U., NAYIR S., NAS M.

Beton 2017, İstanbul, Turkey, 13 - 14 April 2017, pp.355-365

**XVII. Effects of Binary and Ternary Blends of Silica Fume and Metakaolin on the Mitigation of Alkali-Silica Reaction in Concrete**

ERDOĞDU Ş., NAYIR S., NAS M., KANDİL U.

12. International Congress on Advances in Civil Engineering, İstanbul, Turkey, 21 - 23 September 2016, pp.1-7

**XVIII. Uçucu Kül ve Polipropilen Lif İçeren Kireç Harçlarının Tarihi Yapıların Güçlendirilmesi Açısından Değerlendirilmesi**

ERDOĞDU Ş., KANDİL U., NAYIR S., NAS M.

5. Tarihi Eserlerin Güçlendirilmesi ve Geleceğe Güvenle Devredilmesi Sempozyumu, Erzurum, Turkey, 1 - 03 October 2015, pp.375-384

**XIX. Farklı oranlarda uçucu kül ikame edilerek üretilen betonların klor geçirimsizliklerinin belirlenmesi**

ERDOĞDU Ş., Kandil U., Nayir S.

9. Ulusal Beton Kongresi, Antalya, Turkey, 16 - 18 April 2015, pp.59-69

## Scientific Refereeing

JOURNAL OF BUILDING ENGINEERING, Journal Indexed in SCI-E, July 2024

Kahramanmaraş Sütçü İmam Üniversitesi Fen ve Mühendislik Dergisi, National Scientific Refreed Journal, June 2024

ADVANCES IN CIVIL ENGINEERING, Journal Indexed in SCI-E, May 2024

Karadeniz Fen Bilimleri Dergisi, National Scientific Refreed Journal, April 2024

ASIAN JOURNAL OF CIVIL ENGINEERING, Other Indexed Journal, August 2023

IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY - TRANSACTIONS OF CIVIL ENGINEERING, Journal Indexed in SCI-E, July 2023

Journal of Structural Engineering & Applied Mechanics (Online), National Scientific Refreed Journal, June 2023

Journal of Structural Engineering & Applied Mechanics (Online), National Scientific Refreed Journal, June 2023

Journal of Structural Engineering & Applied Mechanics (Online), National Scientific Refreed Journal, May 2023

Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi, National Scientific Refreed Journal, May 2023

ADVANCES IN CIVIL ENGINEERING, Journal Indexed in SCI-E, January 2021

ADVANCES IN CIVIL ENGINEERING, Journal Indexed in SCI-E, May 2020

## Metrics

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