

## Asst. Prof. Didem OKTAY

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAZ-5816-2020

ScopusID: 56574133100

Yoksis Researcher ID: 21348

### Education Information

Doctorate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, İnşaat Mühendisliği, Turkey  
2011 - 2017

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği, Turkey 2009 - 2011

Undergraduate, Gazi University, Mühendislik Mimarlık Fakültesi, İnşaat Mühendisliği, Turkey 2004 - 2008

### Foreign Languages

English, B2 Upper Intermediate

### Certificates, Courses and Trainings

Vocational Training, MARE.14 "Materials and Techniques for the Restoration of Monuments", Aristotle University of Thessaloniki , 2014

### Dissertations

Doctorate, Tarihi Kireç Harçlarına Uygun Enjeksiyon Malzemelerinin Üretilmesi ve Model Duvarlarda Uygulanmasının Değerlendirilmesi, Yıldız Teknik Üniversitesi, Graduate School of Natural and Applied Sciences, İnşaat Mühendisliği, 2017

Postgraduate, Naylon Lif Donatılı Çimento Esaslı Kompozitlerin Mekanik Davranışı, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği, 2011

### Research Areas

Civil Engineering, Building materials, Materials in Civil Engineering, Concrete Technology, Engineering and Technology

## Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2019 - Continues

Research Assistant, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2010 - 2019

## Academic and Administrative Experience

Fakülte Yönetim Kurulu Üyesi, Yildiz Technical University, Faculty Of Civil Engineering, Civil Engineering Department, 2024 - Continues

## Courses

Advanced Concrete Technology, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Rheology of Cementitious Materials, Doctorate, 2020 - 2021

Construction Materials, Undergraduate, 2020 - 2021

Material Science and Engineering, Undergraduate, 2021 - 2022, 2018 - 2019

Bitirme Çalışması, Undergraduate, 2021 - 2022, 2020 - 2021

Material Science, Undergraduate, 2021 - 2022

## Advising Theses

Oktay D., Investigation of Fresh and Hardened Properties of Nanofibrous Cellulose Added Lime Based Injection Materials, Postgraduate, A.SAYAR(Student), 2024

Oktay D., Aktürk B., Effects of Nano-Silica on the Mechanical and Microstructural Properties of Sodium Carbonate Activated Slag-Reactive MgO Based Systems, Postgraduate, Ö.ÖZEN(Student), 2024

Oktay D., Influence of cellulose nanocrystals and nanosilica on microstructural and mechanical performance of cementbased materials, Postgraduate, A.SATAR(Student), 2022

Yüzer N., Oktay D., Rheological Properties of Grout Produced from Waste Volcanic Tuff of Cappadocia Region, Postgraduate, M.BAYRAM(Student), 2021

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

- I. **One-part sodium carbonate-activated slag/r-MgO based mixes: Influence of nano-silica incorporation on compressive strength and microstructural development**  
Özen Ö. C., Oktay D., Aktürk B.  
Construction and Building Materials, vol.422, 2024 (SCI-Expanded)
- II. **Valorization of Cappadocia waste earth in the production of sustainable lime-based grouts**  
Dinç Şengönül B., Bayram M., Oktay D., Yüzer N.  
Sustainable Chemistry and Pharmacy, vol.38, pp.1-17, 2024 (SCI-Expanded)
- III. **Behavior of grout injected solid stone masonry walls under in-plane loading**  
Dinç Şengönül B., Yüzer N., Şengönül C., Ulukaya S., Oktay D., Ündül Ö.  
Structures, vol.58, pp.1-18, 2023 (SCI-Expanded)
- IV. **Characterization of ferrochrome ash and blast furnace slag based alkali-activated paste and mortar**  
Omur T., Miyan N., Kabay N., Birol B., Oktay D.  
CONSTRUCTION AND BUILDING MATERIALS, vol.363, 2023 (SCI-Expanded)
- V. **Evaluation of Fresh Properties and Rheological Behavior of lime-based Grouts with Cappadocia Waste Earth**  
Bayram M., Oktay D., Yüzer N.  
INTERNATIONAL JOURNAL OF ARCHITECTURAL HERITAGE, vol.17, no.12, pp.1984-2000, 2023 (SCI-Expanded)

- VI. **Effect of temperature, resting time and brick dust (Horasan) on the rheological properties of hydraulic lime-based grouts**  
DİNÇ ŞENGÖNÜL B., OKTAY D., YÜZER N.  
Construction And Building Materials, vol.265, pp.120644, 2020 (SCI-Expanded)
- VII. **Numerical Modeling of Traditional Masonry Walls Strengthened with Grout Injection**  
DORAN B., YÜZER N., AKTAN S., OKTAY D., ULUKAYA S.  
INTERNATIONAL JOURNAL OF ARCHITECTURAL HERITAGE, vol.14, no.10, pp.1517-1532, 2020 (SCI-Expanded)
- VIII. **Characterization of the grout produced from argillaceous limestone for the consolidation of historic buildings**  
OKTAY D., UĞURYOL M. F., GÜNER M. B., HAZAR A. B., YÜZER N.  
Journal Of The Faculty Of Engineering And Architecture Of Gazi University, vol.35, no.3, pp.1387-1397, 2020 (SCI-Expanded)
- IX. **Performance Evaluation Of The Lime-Based Grout Used For Consolidation Of Brick Masonry Walls**  
Gökyiğit Arpacı E. Y., OKTAY D., YÜZER N., Ulukaya S., EKŞİ AKBULUT D.  
JOURNAL OF MATERIALS IN CIVIL ENGINEERING-ASCE, vol.31, no.6, pp.1-12, 2019 (SCI-Expanded)
- X. **The effect of mortar type and joint thickness on mechanical properties of conventional masonry walls**  
Zengin B., Toydemir B., Ulukaya S., Oktay D., Yüzer N., Koçak A.  
STRUCTURAL ENGINEERING AND MECHANICS, vol.67, pp.579-585, 2018 (SCI-Expanded)
- XI. **Material Characterization of Byzantine Period Brick Masonry Walls Revealed in Istanbul (Turkey)**  
ULUKAYA S., YORUC A. B., YÜZER N., OKTAY D.  
PERIODICA POLYTECHNICA-CIVIL ENGINEERING, vol.61, no.2, pp.209-215, 2017 (SCI-Expanded)
- XII. **In-Plane Shear Behavior of Traditional Masonry Walls**  
DORAN B., KÖKSAL H. O., AKTAN S., ULUKAYA S., OKTAY D., YÜZER N.  
INTERNATIONAL JOURNAL OF ARCHITECTURAL HERITAGE, vol.11, no.2, pp.278-291, 2017 (SCI-Expanded)
- XIII. **Comparative Experimental Study of Mortars Incorporating Pumice Powder or Fly Ash**  
KIZILKANAT A. B., Oktay D., Kabay N., Tufekci M.  
JOURNAL OF MATERIALS IN CIVIL ENGINEERING, vol.28, no.2, 2016 (SCI-Expanded)
- XIV. **Properties of concrete with pumice powder and fly ash as cement replacement materials**  
KABAY N., Tufekci M. M., KIZILKANAT A. B., Oktay D.  
CONSTRUCTION AND BUILDING MATERIALS, vol.85, pp.1-8, 2015 (SCI-Expanded)

## Articles Published in Other Journals

- I. **The Evolution of Grouting and Hydraulic Lime-Based Grout Used in the Restoration of Historical Masonry Buildings**  
Ekşi Akbulut D., Gokyigit Arpacı E. Y., Oktay D., Yüzer N.  
MEGARON, vol.13, no.1, pp.156-168, 2018 (ESCI)
- II. **Properties of Cement Mortars Reinforced with Polypropylene Fibers**  
Oktay D., Aktürk B., Kabay N.  
Sigma Journal of Engineering and Natural Sciences, vol.32, no.2, pp.164-175, 2014 (ESCI)

## Books & Book Chapters

- I. **Tarihi Yapılarda Enjeksiyon**  
YÜZER N., OKTAY D.  
Yıldız Teknik Üniversitesi Basım Yayın Merkezi, İstanbul, 2020

## Refereed Congress / Symposium Publications in Proceedings

- I. **SODYUM KARBONATLA AKTİVE EDİLMİŞ REAKTİF MgO/CÜRUF ESASLI SİSTEMLERİN REOLOJİK ÖZELLİKLERİ VE BASINÇ DAYANIMLARI**  
Ertuğrul O., Özen Ö. C., Oktay D., Aktürk B.  
BETON 2023 Hazır Beton Kongresi, İstanbul, Turkey, 08 November 2023, pp.519-529
- II. **NANO SELÜLOZ MALZEMELERİN ÇİMENTO ESASLI SİSTEMLERDE KULLANIMI**  
Yüzer N., Oktay D.  
Beton 2023 Kongresi, İstanbul, Turkey, 8 - 10 November 2023, vol.1, pp.113-134
- III. **Effect of Reactive MgO Substitution on Strength Development and Microstructure Properties of Sodium Carbonate Activated Slag-Based Systems**  
Özen Ö. C., Oktay D., Aktürk B.  
15th International Congress on Advances in Civil Engineering, Gazimagusa, Cyprus (Kkct), 6 - 08 September 2023, pp.121-130
- IV. **RHEOLOGICAL BEHAVIOR OF ALKALI ACTIVATED SLAG-BASED SYSTEMS: EFFECTS OF DIFFERENT MINERAL ADDITIVES**  
Aktürk B., Oktay D.  
9. International Congress on Engineering, Architecture and Design, İstanbul, Turkey, 14 May 2022, pp.636-643
- V. **Influence of Cellulose Nanocrystals and Nano Silica on Mechanical Performance of Cement-Based Materials**  
AL-ASKARY A. S. J., OKTAY D.  
2.Uluslararası Mühendislik ve Doğa Bilimleri Çalışmaları Kongresi, Ankara, Turkey, 07 May 2022, pp.11-25
- VI. **Nonlinear Behaviour Of Two-Whyte Stone Walls. 12th International Conference on Structural Analysis of Historical Constructions**  
DİNÇ ŞENGÖNÜL B., HOTHOT Y. M., DORAN B., YÜZER N., ULUKAYA S., OKTAY D.  
12th International Conference on Structural Analysis of Historical Constructions SAHC 2020, Barcelona, Spain, 29 September 2021
- VII. **Nonlinear Behaviour of Two-Whyte Stone Walls**  
Dinç Şengönül B., Hothot Y. M., Doran B., Yüzer N., Ulukaya S., Oktay D.  
12th INTERNATIONAL CONFERENCE ON STRUCTURAL ANALYSIS OF HISTORICAL CONSTRUCTIONS SAHC2020, Barcelona, Spain, 29 September - 01 October 2021, pp.2136-2145
- VIII. **Fresh and Hardened State Properties of Lime-Based Grouts Produced from Waste Volcanic Tuff of Cappadocia Region**  
Dinç Şengönül B., Bayram M., Oktay D., Yüzer N.  
14th International Congress on Advances in Civil Engineering (ACE2020-21), İstanbul, Turkey, 6 - 08 September 2021, pp.59-65
- IX. **Characterization and Durability Assessment of Lime-Based Grouts**  
Oktay D., Yüzer N.  
International Conference on "Cement – Based Materials Tailored for a Sustainable Future", İstanbul, Turkey, 27 - 28 May 2021, pp.236-241
- X. **Influence of Temperature on Rheological Properties of Grout Produced from Waste Volcanic Tuff of Cappadocia Region**  
Bayram M., Oktay D., Yüzer N.  
International Conference on "Cement – Based Materials Tailored for a Sustainable Future", İstanbul, Turkey, 27 - 28 May 2021, pp.258-264
- XI. **Investigation Of Mechanical Properties Of Two-Wyhte Stone Masonry Walls Consolidated With Grout**  
Şengönül C., Yüzer N., Dinç Şengönül B., Oktay D., Ulukaya S.  
INTERNATIONAL AEGEAN SYMPOSIUMS ON INNOVATION TECHNOLOGIES & ENGINEERING-II, İzmir, Turkey, 18 - 19 September 2020, pp.53-54
- XII. **MİNERAL ve KİMYASAL KATKININ ÇİMENTO HAMURU REOLOJİSİ ve DAYANIM GELİŞİMİNE ETKİSİ**  
Oktay D., Aktürk B., Kızılkant A. B., Kabay N., Özkan H., Özkan Ç.

10th International Concrete Congress, Bursa, Turkey, 02 May 2019, pp.495-503

- XIII. **Time-Dependent Rheological Behaviour of Lime-Based Grouts**  
DİNÇ B., YÜZER N., OKTAY D.  
International Civil Engineering and Architecture Conference (ICEARC'19), Trabzon, Türkiye, 17 - 20 April 2019
- XIV. **Effect of Temperature on Rheological Properties of Lime-Based Grouts**  
DİNÇ B., YÜZER N., OKTAY D.  
13th International Congress on Advances in Civil Engineering, İzmir, Turkey, 12 September 2018, pp.1-7
- XV. **Hidrolik Kireç Esaslı Enjeksiyon Malzemesinin Tasarımı ve Enjekte Edilebilirliğinin Araştırılması**  
OKTAY D., YÜZER N.  
Uluslararası Katılımlı 6. Tarihi Yapıların Korunması ve Güçlendirilmesi Sempozyumu, Trabzon, Turkey, 02 November 2017, pp.257-265
- XVI. **Determination of Mechanical of Properties of Blend Bricks Used in Historical Structures**  
Zengin B., Toydemir B., Ulukaya S., Oktay D., Yüzer N., Koçak A.  
3rd International Conference on Protection of Historical Constructions-Prohitech 17, Lisbon, Portugal, 12 July 2017, vol.1, pp.184-185
- XVII. **INVESTIGATION OF MASONRY WALLS ON A COMPRESSIBLE SOIL BY MODEL TESTS (In Turkish)**  
Berilgen M. M., Coşandal A., Ulukaya S., Oktay D., Berilgen S. A., Yüzer N.  
Zemin Mekaniği ve Geoteknik Mühendisliği 16. Ulusal Kongresi (ZM-16), Erzurum, Turkey, 13 - 14 October 2016, vol.2, pp.595-604
- XVIII. **Experimental Study on the Mechanical Properties of Lime-Based Mortars Produced for Consolidation**  
OKTAY D., YÜZER N.  
HMC 2016-4th Historic Mortars Conference, Santorini, Greece, 10 October 2016, pp.307-314
- XIX. **Investigation of Masonry Walls On A Compressible Soil By Model Tests (In Turkish)**  
Berilgen M. M., Coşandal A., Ulukaya S., Oktay D., Yüzer N., Berilgen S. A.  
16. Ulusal Zemin Mekaniği ve Geoteknik Mühendisliği Kongresi, Erzurum, Turkey, 13 - 14 October 2016, pp.595-604
- XX. **Rheological Properties of Lime Based Grouts Utilized for Masonry Consolidation**  
OKTAY D., YÜZER N.  
ACE 2016, 12th International Congress on Advances in Civil Engineering, İstanbul, Turkey, 21 September 2016, pp.137
- XXI. **Constitutive Modeling of Unreinforced Masonry Walls**  
Aktan S., Doran B., Köksal H. O., Yüzer N., Ulukaya S., Oktay D., Akbaş B.  
ACM 2015-International Conference on Advances in Applied and Computational Mechanics, İzmir, Turkey, 5 - 07 August 2015, pp.10-16
- XXII. **Rheological properties of hydraulic grouts used in consolidation of brick masonry walls**  
OKTAY D., YÜZER N., Ulukaya S.  
REHAB 2015, 2nd International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures, Porto, Portugal, 22 July 2015, pp.861-868
- XXIII. **Mechanical behavior of two-wythebrick masonry walls injected with hydraulic lime grout**  
YÜZER N., Oktay D., Ulukaya S., Gökyiğit-Arpacı E. Y.  
REHAB 2015 - 2nd International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures, 01 July 2015, pp.879-888
- XXIV. **Developments in High Performance Fiber Reinforced Cementitious Composites**  
OKTAY D., Taşdemir M. A.  
International Congress on Advances in Civil Engineering, ACE2014, İstanbul, Turkey, 21 October 2014, pp.1-6
- XXV. **Tarihi Yapıların Onarımında Kullanılan Enjeksiyon Yönteminin (Grouting) Değerlendirilmesi**  
OKTAY D., YÜZER N.  
4. Tarihi Yapıların Güçlendirilmesi ve Geleceğe Güvenle Devredilmesi Sempozyumu, İstanbul, Turkey, 27 November 2013, pp.377-386
- XXVI. **Naylon Lif Donatılı Betonların Mekanik Davranışı**

## Supported Projects

OKTAY D., AKTÜRK B., Ertuğrul O., Project Supported by Higher Education Institutions, Sodyum Karbonatla Aktileştirilmiş Reaktif MgO-Cüruf Bazlı Sistemlerin Reolojik Özelliklerinin ve Dijital Teknolojilerle Üretilirliğinin Araştırılması, 2023 - Continues

MANAV DEMİR N., OKTAY D., CİVELEK YÖRÜKLÜ H., KOŞMA E. B., Project Supported by Higher Education Institutions, Atıklardan enerji üretimi esnasında açığa çıkan CO<sub>2</sub>'nin gideriminde MICP prosesinin değerlendirilmesi ile CaCO<sub>3</sub> üretimi ve yapı malzemesi olarak kullanımı, 2021 - Continues

Oktay D., Hazar A. B., Şahiner A., Uğuryol M. F., Çamiç B. T., Yüzer N., TUBITAK Project, Yerli Tarım Atığından Elde Edilecek Selüloz Nano Kristal Ve Fiber İçeren Kireç Esaslı Enjeksiyon Malzemelerinin Üretimi Ve Performanslarının Değerlendirilmesi, 2023 - 2025

Canpolat O., Özkaya B., Yüzer N., Uysal M., Doğruöz Güngör N., Oktay D., Ulukaya S., Kahraman T., Özata Ş., Şengönül B. D., et al., Project Supported by Higher Education Institutions, Çimento ve Kireç Esaslı Harçların Bakterilerle Kendi Kendini İyileştirme Özelliklerinin Araştırılması, 2023 - 2025

OKTAY D., ÖZEN Ö. C., AKTÜRK B., Project Supported by Higher Education Institutions, Nano-Silika Katkısının Sodyum Karbonatla Aktive Edilmiş Cüruf-Reaktif MgO Esaslı Sistemlerin Mekanik ve İyapı Özellikleri Üzerindeki Etkileri, 2023 - 2024

OKTAY D., Sayar A., Project Supported by Higher Education Institutions, Nanofiber Selüloz Katkılı Kireç Esaslı Enjeksiyon Malzemelerinin Taze ve Sertleşmiş Haldeki Özelliklerinin İncelenmesi, 2023 - 2024

Oktay D., Yazar A. T., Aktürk B., Project Supported by Higher Education Institutions, Production of Nano silica-added, Sodium Carbonate Activated Reactive MgO/Slag Based Binder Systems: Rheological, Microstructure Properties, Performance and Manufacturability by Digital Technologies, 2022 - 2024

Yüzer N., Hazar A. B., Uğuryol M. F., Oktay D., Yüzer M. O., TUBITAK Project, Kireç Esaslı Enjeksiyon Malzemesi Ve Harç İçin Atık Kandan Kimyasal Katkı Üretimi, 2022 - 2024

OKTAY D., AL-ASKARY A. S. J., Project Supported by Higher Education Institutions, Influence of Cellulose Nanocrystals and Nano Silica on Microstructural and Mechanical Performance of CementBased Materials, 2022 - 2022

Zor S., Oktay D., TUBITAK Project, Investigation of the Mechanical Performance Improvement Properties of Nanocrystalline Cellulose of Cement Mortars, 2021 - 2022

Yüzer N., Özata Ş., Ulukaya S., Oktay D., Selçuk M. E., Ündül Ö., Berilgen M. M., Tuncer Ö. F., TUBITAK Project, Investigation of the Usability of Cappadocia Volcanic Tuff in Historical Masonry Buildings by Activating with Alkalis, 2018 - 2022

YÜZER N., OKTAY D., Bayram M., Project Supported by Higher Education Institutions, Kapadokya Bölgesi Atık Volkanik Tüfünden Üretilmiş Enjeksiyon Malzemesinin Reolojik Özellikleri, 2021 - 2021

DORAN B., UĞURYOL M. F., YÜZER N., TUBITAK Project, Enjeksiyon Yöntemi (Grouting) İle Onarılmış Tarihi Tuğla Duvarların Yük Altında Davranışının İncelenmesi, 2014 - 2017

Yüzer N., Oktay D., Project Supported by Higher Education Institutions, INVESTIGATION OF THE PERFORMANCE OF HISTORICAL BRICK WALLS THAT IS RESTORED WITH GROUTING, 2014 - 2017

Yüzer N., Doran B., Coşandal A., Hazar A. B., Berilgen M. M., Büyükpınar Ç., TUBITAK Project, Determination of Original Brick Wall Material Properties of Historical Buildings and Investigation of Behavior Under Load Using Model ExperimentsT, 2012 - 2015

## Patent

Yüzer N., Hazar A. B., Uğuryol M. F., Oktay D., Güner M. B., Production Method of Ready Injection Material Comprising Nano Hydraulic Lime, Patent, CHAPTER E Constructed Constructions (Construction), The Invention Registration Number: 3732144 , Standard Registration, 2022

Yüzer N., Hazar A. B., Uğuryol M. F., Oktay D., PRODUCTION METHOD OF READY MIXED GROUT COMPRISING NANO

HYDRAULIC LIME, Patent, CHAPTER E Constructed Constructions (Construction), The Invention Registration Number: 2017 22327 , Standard Registration, 2021

## **Memberships / Tasks in Scientific Organizations**

RILEM-Technical Committee 277-LHS, Member, 2020 - Continues, France

## **Scientific Refereeing**

JOURNAL OF BUILDING ENGINEERING, Journal Indexed in SCI-E, July 2022

CONSTRUCTION AND BUILDING MATERIALS, Journal Indexed in SCI-E, March 2022

CONSTRUCTION AND BUILDING MATERIALS, Journal Indexed in SCI-E, March 2021

CONSTRUCTION AND BUILDING MATERIALS, Journal Indexed in SCI-E, October 2020

Construction and Building Materials, SCI Journal, February 2016

## **Metrics**

Publication: 43

Citation (WoS): 80

Citation (Scopus): 184

H-Index (WoS): 5

H-Index (Scopus): 7

## **Awards**

Yüzer N., Oktay D., Özata Ş., Dinç Şengönül B., Bayram M., Gold Medal-An Injection Material for the Restoration of Historical Structures, İstanbul Uluslararası Buluş Fuarı (Isıf) 2022, May 2022

Yüzer N., Hazar A. B., Uğuryol M. F., Oktay D., Silver Medal-Production Method of Ready-Mixed Injection Material Containing Nano Hydraulic Lime, İstanbul Uluslararası Buluş Fuarı (Isıf) 2021, September 2021

OKTAY D., Birincilik Ödülü-Mechanical behavior of two-wythe brick masonry walls injected with hydraulic lime grout, REHAB 2015, 2nd International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures, July 2016