

## Assoc. Prof. OĞUZHAN ŞAHİN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AHD-2887-2022

ScopusID: 57205892131

Yoksis Researcher ID: 268575

### Education Information

Post Doctorate, Iowa State University, Department of Civil, Construction and Environmental Engineering, United States Of America 2022 - 2023

Doctorate, Hacettepe University, Fen Bilimleri Enstitüsü, Turkey 2018 - 2021

Postgraduate, Suleyman Demirel University, Fen Bilimleri Enstitüsü, Turkey 2016 - 2018

Undergraduate, Ege University, Turkey 2011 - 2016

### Dissertations

Doctorate, Development of Construction Demolition Waste-based Geopolymeric Composites Suitable for Three-dimensional Additive Manufacturing, Hacettepe University, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği A.B.D., 2021

Postgraduate, YAPILAR ÜZERİNDEKİ KALINTI DEPLASMAN TALEBİNİN DEPREMLE OLAN İLİŞKİSİ, Suleyman Demirel University, Fen Bilimleri Enstitüsü, İnşaat Mühendisliği Anabilim Dalı, 2018

### Research Areas

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

### Academic Titles / Tasks

Assistant Professor, Ankara University, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, 2022 - Continues

Research Assistant, Kirşehir Ahi Evran University, Faculty Of Engineering-Architecture, 2017 - 2022

### Academic and Administrative Experience

Deputy Head of Department, Ankara University, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, 2022 - Continues

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

- I. **Optimizing mechanical performance of geopolymers produced from construction and demolition waste: A comparative study of materials from different origins**  
KUL A., Ozcelikli E., ÖZEL B. F., İLCAN H., ŞAHİN O., Gunal M. F., YILDIRIM G., ŞAHMARAN M.  
Construction and Building Materials, vol.426, 2024 (SCI-Expanded)
- II. **Characterization and evaluation of cement-based systems containing solution-treated municipal solid-waste incineration fly ash**  
Wi K., ŞAHİN O., Wang K., Lee Y.  
Construction and Building Materials, vol.416, 2024 (SCI-Expanded)
- III. **Buildability analysis on effect of structural design in 3D concrete printing (3DCP): An experimental and numerical study**  
Khan S. A., İLCAN H., Aminipour E., ŞAHİN O., Al Rashid A., ŞAHMARAN M., Koç M.  
Case Studies in Construction Materials, vol.19, 2023 (SCI-Expanded)
- IV. **Thermal conductivity and electrical resistance of carbon-based cementitious composites**  
Acikök F., Genç A., Sahin O., Bayer I. R., Ardoa M. K., ŞAHMARAN M.  
Magazine of Concrete Research, vol.76, no.4, pp.176-187, 2023 (SCI-Expanded)
- V. **Effect of industrial waste-based precursors on the fresh, hardened and environmental performance of construction and demolition wastes-based geopolymers**  
İLCAN H., ŞAHİN O., Unsal Z., Ozcelikli E., KUL A., Cağatay Demiral N., YEMİŞÇİ ÖZKAN M., ŞAHMARAN M.  
Construction and Building Materials, vol.394, 2023 (SCI-Expanded)
- VI. **3D printing of circular materials: Comparative environmental analysis of materials and construction techniques**  
Khan S. A., Jassim M., Ilcan H., ŞAHİN O., Bayer İ. R., ŞAHMARAN M., Koc M.  
Case Studies in Construction Materials, vol.18, 2023 (SCI-Expanded)
- VII. **The effects of various operational- and materials-oriented parameters on the carbonation performance of low-quality recycled concrete aggregate**  
Dündar B., Tuğluca M. S., İLCAN H., ŞAHİN O., ŞAHMARAN M.  
Journal of Building Engineering, vol.68, 2023 (SCI-Expanded)
- VIII. **Construction and demolition waste-based self-healing geopolymer composites for the built environment: An environmental profile assessment and optimization**  
Mir N., Khan S. A., KUL A., ŞAHİN O., Ozcelikli E., ŞAHMARAN M., Koc M.  
Construction and Building Materials, vol.369, 2023 (SCI-Expanded)
- IX. **Rheological property and extrudability performance assessment of construction and demolition waste-based geopolymer mortars with varied testing protocols**  
Ilcan H., Şahin O., Kul A., Ozcelikli E., Sahmaran M.  
CEMENT AND CONCRETE COMPOSITES, vol.136, pp.1-15, 2023 (SCI-Expanded)
- X. **Assessment of the long-term photocatalytic performance of cementitious systems incorporating different mineral admixtures**  
ŞAHİN O.  
Construction and Building Materials, vol.354, 2022 (SCI-Expanded)
- XI. **Renewable energy for carbon footprint reduction of green geopolymers material's production for built-environment**  
Khan S. A., Mir N., KUL A., ŞAHİN O., ŞAHMARAN M., Koc M.  
ENERGY REPORTS, vol.8, pp.852-858, 2022 (SCI-Expanded)
- XII. **Mechanical anisotropy evaluation and bonding properties of 3D-printable construction and demolition waste-based geopolymer mortars**  
Demiral N. C., Ekinici M. O., ŞAHİN O., İLCAN H., KUL A., YILDIRIM G., ŞAHMARAN M.  
CEMENT & CONCRETE COMPOSITES, vol.134, 2022 (SCI-Expanded)
- XIII. **Energy-environmental performance assessment and cleaner energy solutions for a novel Construction and Demolition Waste-based geopolymer binder production process**  
Khan S. A., Kul A., Şahin O., Şahmaran M., Al-Ghamdi S. G., Koç M.

Energy Reports, vol.8, pp.14464-14475, 2022 (SCI-Expanded)

- XIV. **Rheological properties and compressive strength of construction and demolition waste-based geopolymer mortars for 3D-Printing**  
İLCAN H., Sahin O., KUL A., YILDIRIM G., ŞAHMARAN M.  
CONSTRUCTION AND BUILDING MATERIALS, vol.328, 2022 (SCI-Expanded)
- XV. **Role of inclusion size distribution of titanium dioxide on the nitrogen oxides reduction capability and microstructural characteristics of cementitious systems**  
Bahsi E., Sahin O., İLCAN H., UZAL B., Gunal M. F., YILDIRIM G., ŞAHMARAN M.  
CONSTRUCTION AND BUILDING MATERIALS, vol.318, 2022 (SCI-Expanded)
- XVI. **Construction and demolition waste-based geopolymers suited for use in 3-dimensional additive manufacturing**  
Sahin O., İLCAN H., Atesli A. T., KUL A., YILDIRIM G., ŞAHMARAN M.  
CEMENT & CONCRETE COMPOSITES, vol.121, 2021 (SCI-Expanded)
- XVII. **Influence of mixing methods on the NO<sub>x</sub> reduction capability and electrical properties of photocatalytic cementitious systems**  
Sahin O., Bay S., Ilcan H., Yildirim G., ŞAHMARAN M.  
CEMENT & CONCRETE COMPOSITES, vol.115, 2021 (SCI-Expanded)
- XVIII. **Effects of Mixture Design Parameters on the Mechanical Behavior of High-Performance Fiber-Reinforced Concretes**  
ERDEM T. K., DEMİRHAN S., Yildirim G., Banyhussan Q. S., Sahin O., Balav M. H., ŞAHMARAN M.  
JOURNAL OF MATERIALS IN CIVIL ENGINEERING, vol.32, no.12, 2020 (SCI-Expanded)
- XIX. **Performance of engineered cementitious composites under drop-weight impact: Effect of different mixture parameters**  
Yildirim G., Khiavi F. E., ANIL Ö., Sahin O., ŞAHMARAN M., Tugrul Erdem R.  
STRUCTURAL CONCRETE, vol.21, no.3, pp.1051-1070, 2020 (SCI-Expanded)

## Articles Published in Other Journals

- I. **The impact of nozzle diameter and printing speed on geopolymer-based 3D-Printed concrete structures: Numerical modeling and experimental validation**  
Khan S. A., İLCAN H., Imran R., Aminipour E., ŞAHİN O., Al Rashid A., ŞAHMARAN M., Koç M.  
Results in Engineering, vol.21, 2024 (ESCI)
- II. **Buildability analysis on squared profile structure in 3D concrete printing (3DCP)**  
Imran R., AL RASHİD A., KHAN S. A., İLCAN H., ŞAHİN O., ŞAHMARAN M., KOÇ M.  
European Journal of Materials, vol.3, 2023 (Peer-Reviewed Journal)
- III. **Effects of Treated Waste Wood Fibers Incorporation on Rheological Properties of the Construction and Demolition Waste-based Geopolymer Mortar**  
İLCAN H., ŞAHİN O., SÖNMEZ TUĞLUCA M., ŞAHMARAN M.  
NanoWorld Journal, vol.9, no.2, pp.163-169, 2023 (Peer-Reviewed Journal)
- IV. **Life cycle assessment of construction and demolition waste-based geopolymers suited for use in 3-dimensional additive manufacturing**  
MIR N., KHAN S. A., KUL A., ŞAHİN O., ŞAHMARAN M., KOÇ M.  
CIRUGIA ESPAÑOLA (ENGLISH EDITION), vol.10, 2022 (Scopus)
- V. **Life cycle assessment of binary recycled ceramic tile and recycled brick waste-based geopolymers**  
Mir N., Khan S. A., KUL A., ŞAHİN O., LACHEMI M., ŞAHMARAN M., KOÇ M.  
Cleaner Materials, vol.5, 2022 (Scopus)
- VI. **Construction and demolition waste-based geopolymers for built-environment: An environmental sustainability assessment**  
MIR N., KHAN S. A., KUL A., ŞAHİN O., ŞAHMARAN M., KOÇ M.  
MATERIALS TODAY : PROCEEDINGS, vol.70, pp.358-362, 2022 (Scopus)

- VII. **Electrical Testing for the Assessment of Self-healing and Self-sensing Capability of Cementitious Composites**  
ŞAHİN O., YILDIRIM G., ŞAHMARAN M.  
INDIAN CONCRETE JOURNAL, vol.93, pp.39-46, 2019 (Scopus)

## Books & Book Chapters

- I. **Nano-tailored TiO<sub>2</sub>-based photocatalytic cementitious systems for NO<sub>x</sub> reduction and air cleaning**  
ŞAHİN O., Bahşi E., YILDIRIM G., ŞAHMARAN M.  
in: Recent Advances in Nano-Tailored Multi-Functional Cementitious Composites, , Editor, Woodhead Publishing Series in Civil and Structural Engineering, pp.161-208, 2022

## Refereed Congress / Symposium Publications in Proceedings

- I. **Fire Resistance Properties of Geopolymer Binders Incorporating Construction and Demolition Waste and Slag**  
ULUGÖL H., GÜZELKÜÇÜK S., ERDOĞAN M. K., ŞAHİN O.  
2nd International Symposium on Innovations in Civil Engineering and Technology, Isparta, Turkey, 30 October - 01 November 2024
- II. **İNŞAAT VE YIKINTI ATIKLARININ YÜKSEK KATMA DEĞERLİ OLARAK İNŞAAT SEKTÖRÜNE YENİDEN KAZANDIRILMASI**  
Şahmaran M., İlcan H., Şahin O.  
2023 HAZIR BETON FUARI VE KONGRESİ, İstanbul, Turkey, 8 - 10 November 2023, pp.1-5
- III. **Investigating the Effects of Chemical Waterproofing Agent Application Techniques on the Permeability of Concrete Specimens**  
ŞAHİN O.  
3rd Global Conference on Engineering Research (GLOB CER'23), Turkey, 13 - 16 September 2023, pp.532
- IV. **Investigating the Influence of TiO<sub>2</sub> Substitution Rate on Photocatalytic Activity of Cement-Based Systems**  
ŞAHİN O.  
11th International Congress on Engineering, Architecture and Design, İstanbul, Turkey, 10 - 12 June 2023, pp.1453
- V. **Investigation of the Properties of Geopolymer Mortars Produced with the Construction and Demolition Waste**  
İL CAN H., ŞAHİN O., AMİNİPOUR E., ŞAHMARAN M.  
The International RILEM Conference on Synergising expertise towards sustainability and robustness of cement-based materials and concrete structures (SynerCrete'2023), MILOS, Greece, 14 - 16 June 2023, vol.44, pp.337-349
- VI. **Effects of Treated Waste Wood Fibers Incorporation on Rheological Properties of the Construction and Demolition Waste-based Geopolymer Mortar**  
İL CAN H., ŞAHİN O., SÖNMEZ TUĞLUCA M., ŞAHMARAN M.  
4th International Congress on Materials & Structural Stability (CMSS2023), Rabat, Malta, 8 - 10 March 2023
- VII. **Effect of Light-source on the Photocatalytic Degradation Capability of TiO<sub>2</sub>-incorporated Cementitious Composites**  
ŞAHİN O., HATEM M., Bahşi E., BAYER İ. R.  
4th International Conference on Advanced Engineering Technologies (ICADET 2022), Bayburt, Turkey, 28 - 30 September 2022, pp.200
- VIII. **Utilization of Calcined Volcanic Tuff in the Production of Geopolymer Composites**  
ÖKSÜZER N., HATEM M., ŞAHİN O.  
4th International Conference on Advanced Engineering Technologies (ICADET 2022), Bayburt, Turkey, 28 - 30 September 2022

- IX. **Characterization of Fresh State Properties of Construction and Demolition Waste-based Geopolymer for Numerical Modelling and Simulation**  
İLCAN H., KHAN S. A., ŞAHİN O., KOÇ M., ŞAHMARAN M.  
The 4th International Conference of Materials and Engineering Technology, Turkey, 8 - 10 September 2022
- X. **The buildability performance of construction demolition waste-based geopolymeric binder**  
ŞAHİN O., KUL A., YILDIRIM G., ŞAHMARAN M.  
International Conference on Cement - Based Materials Tailored for a Sustainable Future, İstanbul, Turkey, 27 May 2021, vol.1, pp.376-388
- XI. **Sürdürülebilir Yapılaşma Çerçevesinde 3 Boyutlu Eklemeli Beton İmalatı” International Conference on Innovation**  
ŞAHMARAN M., Bahşi E., ŞAHİN O.  
Sustainability, Technology and Education in Civil Engineering, 13 - 15 June 2019
- XII. **Maksimum Deprem Parametrelerinin Yapıların Kalıntı Deplasman Talepleri Üzerindeki Etkisi**  
ŞAHİN O., DURUCAN C., AY Z.  
II. International Scientific and Vocational Studies Congress, Nevşehir, Turkey, 5 - 08 July 2018

## Supported Projects

Ulugöl H., Şahin Abdulmajeed S., Şahin O., Mercimek Ö., Şahmaran M., TUBITAK Project, Hammaddesi İnşaat Yıkıntı Atıklarından Elde Edilen, Doğrudan Su Katılıp Kullanılabilecek, Toz Formda Tek Kısım Geopolimer Bağlayıcı Malzeme Geliştirilmesi, 2024 - 2027

Şahmaran M., Şahin O., Uzal B., Gülcan E., TUBITAK Project, Yüksek Verimli Jeopolimer Bağlayıcı Sistemler İçin Meko-Kimyasal Aktivasyon İşlemi İle Düşük Aktiviteli Mineral Katkıların Mikroyapısal Özelliklerinin İyileştirilmesi, 2022 - 2025

Şahin O., Ulugöl H., Project Supported by Higher Education Institutions, Mineral Katkılı Çimento Esaslı Harç Malzemelerinin Performans Özelliklerinin Üretim Sonrası İlave Uygulamalar Yoluyla İyileştirilmesi, 2022 - 2024

Şahin O., Mercimek Ö., Project Supported by Higher Education Institutions, Viskoelastik Sönümleyicili ve Bulonlu Çelik Kolon Kiriş Birleşimlerinin Deprem Yükleme Etkisindeki Davranışının Deneysel Olarak İncelenmesi, 2022 - 2024

## Metrics

Publication: 40

Citation (WoS): 217

Citation (Scopus): 481

H-Index (WoS): 7

H-Index (Scopus): 12

## Congress and Symposium Activities

Iowa Better Concrete Conference, Invited Speaker, Iowa, United States Of America, 2023

## Scholarships

TUBITAK, 2219-International Postdoctoral Research Fellowship Program for Turkish Citizens, TUBITAK, 2023 - 2023